

SOUTHERN PLANTER

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THE SOUTHERN PLANTER AND FARMER,

DEVOTED TO

Agriculture, Horticulture, and Rural Affairs.

L. R. DICKINSON..... Editor and Proprietor.

RICHMOND, VA.,

JANUARY, 1877.

No. 1.

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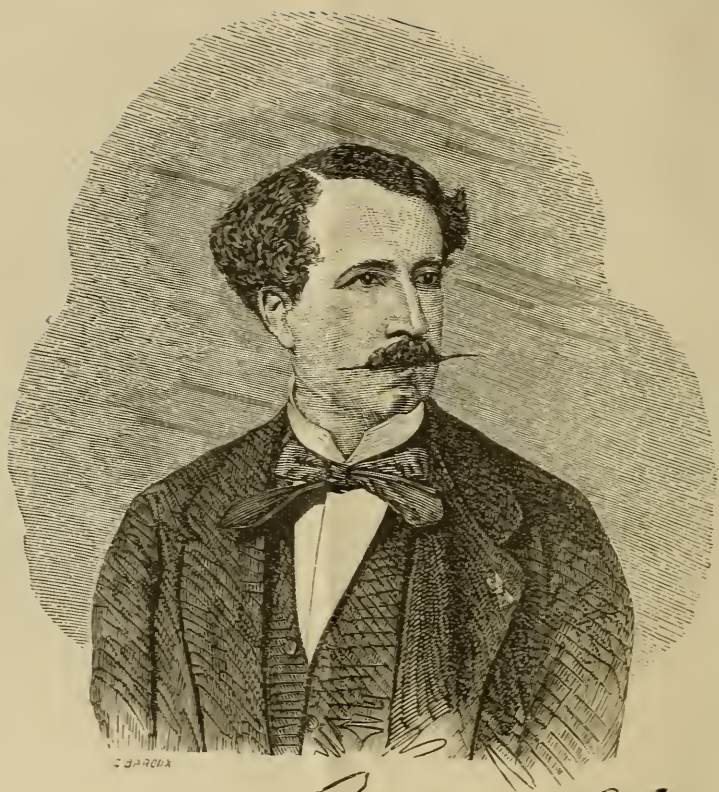
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L. R. DICKINSON, - - - - - EDITOR AND PROPRIETOR

Vol. XXXVII. RICHMOND, VA., JAN., 1877. No. 1

SOIL EXHAUSTION^d AND ROTATION OF CROPS.

BY PROF. S. W. JOHNSON, OF YALE COLLEGE.

[Continued from December Number.]

We have in our Genesee region, in central New York, a country where the soil is of remarkable natural fertility, and, after the first few years of cultivation, the farmers fell into a routine which enables them to take off wheat crops every third year, right along, with great uniformity. The uniformity is great, at least so far as it depends upon the feeding power of the soil. Accidents, like the rust, the midge, or something of that sort may come in and destroy their crops occasionally, but the feeding power of those soils remains, as a certain quantity, and will probably so continue for a great length of time.

The most interesting case which I can bring up in illustration of the natural strength of soil is furnished by the English gentleman to whom I have referred, Mr. Lawes. In April, 1870, he wrote, in respect to a field on his estate, a paragraph as follows :

“The same heavy loam, of no extraordinary fertility, has yielded an average annual produce, without any manure at all, of 16 bushels of wheat for twenty-six years; 20 bushels of barley for eighteen years, and nearly 24 hundred weight (long hundred weight) of hay for fourteen years.”

Mr. Lawes began, in 1844, to see what would be the effect of putting a given plot of land into the same crop year after year, with no manure whatever; and the result is what I have just stated. These averages which he gives are, with one or two exceptions, the regular yield, within two or three bushels, of this piece of land. A field, for example, which had been, this last summer, twenty-eight years in continuous cultivation under wheat, has averaged about 16 bushels; on one occasion, it went up to 23, and on one occasion it

dropped down to five. These variations were due to the season, but otherwise the yield ranged between 12 to 17 bushels, so that this productive power of 16 bushels may be considered as the capacity of that soil in respect to the wheat crop. I do not see any reason why he and his successors should not go on for a hundred years and get the same amount of wheat, within about the same limits. Perhaps it would fall off somewhat. There is a little falling off in the last half of the period just complete. The yield is perhaps a bushel less than during the first half; but that may be accidental, and due to the character of the seasons. There is no reason in my mind why, for the next twenty-five years, the yield should not be a bushel or two more; but we have not lived those other twenty-five years, and we cannot tell positively.

The worst soil we can point out has a certain natural capacity. Take our rocky hill ranges in this State: if we should give a little care to them, we could harvest every twenty-five or thirty years, a certain crop of wood from them; and if we should begin that culture now, and carry it on for a hundred years, we should get the same crop the last thirty years that we did the first thirty. If we carried it on for a thousand years, the climate and circumstances generally, remaining as they are, we could depend upon getting from them three uniform wood crops every century. So in the poorest pasture, we have a certain natural productiveness, which remains the same, so long as the state of the soil is unaltered. The field may become a swamp, or its natural water-supply may be dried up by local changes, but independently of accidents like these, it will manifest a certain uniform natural strength from generation to generation. All production of vegetable matter in the soil, of any kind, is the result of change—the result of chemical and physical change. Natural strength depends upon changes in the soil which act in a nearly invariable manner for long periods of time. The “Tooth of Time,” is an expression belonging indeed to figurative literature, but one also fully justified by fact. It is a tooth whose action never ceases and whose sharpness is never blunted. The grand rock-ridges and peaks which make the mountains of the globe, although they have held their crests aloft in flinty defiance through all the periods of human history or tradition, are slowly wasting under its incessant bite, and the explorer in the high Alps hears from hour to hour the thunder-like noise with which huge blocks of granite, loosened from the mountain-tops, crash downwards. At the base of any high cliff you may see a *talus* of sharp-angle stones reaching half up the breast of the rock, unless some rapid stream of water or slow pushing glacier is there to carry them away. Our level fields are or have been covered with lumps of rock, and our soil is full of them, but these are not sharp edged as if just struck off by a hammer-blow, but they are rounded in all their out-lines; the “Tooth of Time” has not ceased to eat away at every angle and corner of these tempting morsels as the teeth of the children gnaw at sugar plums. Nor does the work stop here. As they lie out on the pasture or buried in the plow-

land, the same invisible tooth nibbles at every point of their surface, roughening and corroding them until they are reduced to dust. Even the sand-grains are ever cut smaller and finer until they dissolve away from our sense of sight or feel, and the long imprisoned potash and lime, the phosphates and the sulphates, are released.

It is the "Tooth of Time" which thus levels mountains and crushes boulders into soil, and it is the same tooth whose incisive workings in the soil reduce the elements of the rocks to the impalpable state of food for the plant. Where circumstances remain the same, these changes prepare the nutriment for plants at a certain regular rate, and the natural strength of the soil is simply the expression of this steady development of plant-food and the corresponding production of vegetable matter.

To turn now to what Mr. Lawes calls the "condition" of the soil. Farmers are in the habit of saying, "This land is in poor condition"—or, "This is good soil, but is rather run down; it is in poor condition at present." Or, looking over the fields of a neighbor, who has taken a little extra pains, "This is poor land, but he has got it up into good condition." "Condition," then, is artificial or accumulated strength; a thing we cannot depend upon, except as we can depend upon the continuance of the artifice or temporary causes of which is a result. "Condition" refers to those elements of fertility which are capable of being turned to account in the growth of crops within a limited time. We may have a "condition" which is the result of natural causes, as is illustrated by the manner in which Indian corn is grown in some parts of South America, on land newly cleared from the forest. You know that in tropical latitudes, the year is usually divided into two seasons—the wet and the dry. During the former, abundant rains fall and vegetation grows with wonderful luxuriance. The other half of the year is comparatively dry, and plant-life is inactive. At the close of the rainy season, the planters chop down the timber, the brush, and everything that grows upon the land where they propose to get a crop. When the fallen vegetation is sufficiently dry, they set it on fire, and everything burns completely except the largest trees. When the fire has gone out, toward the beginning of the next rainy season, they have a field destitute of vegetation and coated with the ashes of the forest. There, with the smallest preparation, they plant their corn in the ashes, dropping it in where they can, and get a magnificent crop. The second year, they put on corn again and get another large crop. The third year they get another crop, and after that, it is cheaper to abandon that field, and to clear another. The first piece grows up to forest, and in six, or eight, or ten years, perhaps, they can burn it over again. Here, the fertility of the soil after burning is a "condition" which is produced partly by natural means, the growth of the forest, which brings up matters from below, and partly by artificial means, the felling and burning of the forests, restoring those matters to the surface.

"Natural strength" is something which is comparatively unaffected

by cropping. Where the soil has great natural strength, you cannot permanently exhaust it; you may get it down to a point where production is unremunerative, you may say your land, once good, is "exhausted," but a skillful farmer will take hold of it, and by the use of some judiciously selected fertilizer, and the application of well-directed labor, he will bring up this exhausted soil in a short time, and make a profitable farm of it. It only needs a little "condition" to re-establish its good name. "Condition" itself, however, is a thing which is easily run through with. You may take a poor, light soil, and make it productive by the application of manure and by careful tillage, but if you stop there, and undertake to work on that capital, you will find that it deteriorates rapidly. You will have to come down to the natural strength, and if that be small, your crops will correspond.

To illustrate further what "condition" means, take the case of those fields of Mr. Lawes, the natural strength of which was measured by a yield of 16 bushels of wheat, or 20 bushels of barley, or 2600 lbs. of hay, through a number of years. He took a portion of that land and put on it, annually, fourteen tons of yard manure, to the acre, and during the nineteen years in which he carried on that process simply, he got 36 bushels of wheat per acre, as the average, some years a little more and some years a little less, and one or two years a good deal less than this quantity, on account of some peculiarity in the season. On another field of the same land, where he put four hundred pounds of ammonia salts—sulphate of ammonia, I believe, mainly—he also raised, annually, 36 bushels of grain. On another field, where he applied fourteen tons of stable dung, he got 48 bushels of barley, on the average, for nineteen years. The annual use of stable manure in this quantity, and the annual addition of a certain number of pounds of salts of ammonia, raised the crop of wheat from 16 bushels to 36 bushels, and kept it steadily at that point for nineteen years; so that the difference between 16 and 36 bushels, that is, 20 bushels, was the crop which was produced from that field by the use of fourteen tons of stable manure in one case, and four hundred pounds of salts of ammonia in another. It was the stable manure and ammonia salts in those quantities which improved the "condition" of the land by the equivalent of 20 bushels of wheat.

We understand, then, that there is a natural quality in the soil which we cannot easily bring below a certain limit; and there is a "condition," an artificial, temporary or adventitious fertility, which we can easily increase and easily exhaust.

There are many circumstances which necessitate or justify a *Rotation of Crops*. I will not attempt to enumerate them all. Differences of soil and climate, the quantity of fertilizers accessible, the demand in the markets, ease of transportation, politicians, when they make fluctuating tariffs, weeds which come to infest the fields, insects even, may make it advisable to alternate our crops. It may not be uninteresting to go back in history and give a sketch of the gradual development of the practice of Rotation.

The earliest husbandry was simply pasturage. When the people of temperate climates found they could not support themselves by killing wild animals and gathering fruits, the natural produce of the country, they began to tame animals and keep herds of cattle, sheep, etc.; and you know that on the vast plains of Asia and South America, this sort of pastoral husbandry is still the only one known. As population became more dense and land more valuable, people crowded each other, and there was not room enough to roam about at will and settle upon pasture wherever it could be found, unless, for a change, the people fell to fighting, and partially killed each other off, thus leaving land enough for the survivors. When civilization began, it became necessary to cultivate forage crops, or at least, to take some care of the natural meadows. The next step was to assist these natural resources by growing some grain, and people began to break up a little land, and cultivate wheat and the various grain crops; afterwards, attention was given to root crops. It may not be possible now to show how these steps of progress have taken place in any given locality; but this is a general history of the development of husbandry all over the world, wherever it has attained any perfection. Farmers have always carried on their operations in a very simple way, at first, for many generations. On the continent of Europe, where we have the most authentic accounts, they plowed a small portion of land, and grew some grain upon it—barley, wheat, or rye—putting in the same crop as long as they could make it grow and get back a little more than the seed. They were content with much poorer crops than we regard profitable. They used the same land for several years, until its “condition” was gone, or until it was no longer remunerative, and then they left it and plowed up another piece. The old field would grow up to grass, and after a number of years they would come round to it again and sow it to grain. That was the earliest and simplest plan of conducting farming. In those days, there was but little skill or thought bestowed upon agriculture. The intelligence of the world was mainly given to government, war, and things of that sort. The peasant was a man who knew nothing except to grub the ground, and he did it year after year, generation after generation, as his father had done it before him, with little idea of change or improvement. In the neighborhood of cities, where there was better pay for this kind of work, and more intelligence concentrated upon it, of course it began to be found that a little rotation was a good thing. Where rotation started, we do not know. In some books it is stated that it was invented in England. But if you will read Virgil and Varro, you will find that the Romans were well acquainted with rotation, although Virgil, who was a poet, only mentions it in an incidental way. Leaving the results of modern science out of the account, there is not much in our agricultural practice that you will not find described in Latin books. Those people, who developed a magnificent civilization which they forced upon the unwilling savages of Britain and the north of Europe, who were our ancestors, did a great deal of

good work in the way of agriculture, considering the facilities at their command.

After a time, there came into use in Europe a system which was practiced there extensively in the ninth century, and is still followed in some parts of the continent. It was known as the three-course system of rotation. For centuries this system was carried on where the farmer had large pasturage, and little plow-land. The first year, the plow-land was left in fallow, but in the autumn was prepared, by what manure and rough tillage could be given it, for a sowing of winter grain, mostly rye, which occupied the second year. The third year the ground was put in summer grain which completed the shift. Then the farmer began again, with a year of fallow and manure, a year of winter grain, a year of summer grain; and so he went on—three years—three years—three years—indefinitely. I suppose there are districts in Europe that could be pointed out where this practice has prevailed for nearly a thousand years, and it was early imported into this country. It was the subject of legislation in the time of Charlemagne. Some historians think that this monarch decreed the adoption of the three years' shift; others think that he merely recommended it, as an improvement on what had been previously the custom among the less advanced peasants, of simply using the plow for a succession of years, without any rest for the land. In the vicinity of cities, where the plowed land increased in proportion to the quantity of pasture, and the supply of dung became inadequate to manure it sufficiently so that the manure and fallow together could not make two good grain crops, forage plants—grass, clover, or roots—were introduced into the course; and in that way, a great variety of rotations came into use.

In England, there has been practiced, over a considerable part of the country, what is known as "the Norfolk rotation"—a four years' shift. You have all read of it, doubtless. The first year, clover and mixed grass seed; the second year, wheat; the third year, turnips or rutabagas; the fourth year barley; and then the same course again, with perhaps a little variation; perhaps the land was kept two years in clover and grass. In Dorset, Wilts, Essex, Herts, Suffolk, and Cambridge, in England, ten or fifteen years ago, this course was in almost universal use. I speak of this matter to bring up one point. There are certain advantages in rotation which being observed or conceived led to its adoption. But farmers, especially in long-settled countries like England, are apt, having once accustomed themselves to a routine, to adhere to it long after its advantages cease to exist. This is illustrated by the fact that Norfolk, which gave England the four-course system just described, began more than thirty years ago to amend its own improvements. The command of concentrated and artificial fertilizers which admit of easy application at any point in a rotation, led some of the best farmers there to introduce another grain crop—oats—into the shift, making a five years' course, and according to Caird, in his "English Agriculture," "on a large farm where this system has supplanted the

four years' course the average produce of all the grain crops has increased in ten years between thirty and forty per cent.; the extent of land on this farm in wheat, having during that period annually increased till it has now (1850-51) become one-third greater than it was then."

In Great Britain, Germany, and other European countries, you will find in many localities very complicated systems of rotation. I saw the other day, in a book which I was looking into for some statistics, a long and curious calculation, showing the various materials—lime, potash, phosphoric acid, &c.—taken off and put on a farm, which was divided into ten equal fields, and each of these fields, went through successively with the same ten years' rotation; which was: 1, Summer Fallow, manured. 2, Winter Coleseed. 3, Wheat and Rye. 4, Legumes, manured. 5, Rye. 6, Potatoes. 7, Clover and Grass. 8, Clover hay. 9, Pasture till 1st July, then Summer fallow. 10, Rye and Wheat, "half manured."

It is a great advantage, in the conduct of a large estate of four or five hundred acres, to have the whole system of cropping made up beforehand, so that the men can tell just what is to be done from year to year. The management of farm labor is simplified by this arrangement. That is one of the reasons why such complicated rotations are adopted.

[For the Southern Planter and Farmer.]

THE LATE CONSTITUTIONAL AMENDMENTS RESTRICTING SUFFRAGE.

If history be philosophy teaching by example, one of its chief lessons is, that government is a balancing of probabilities. What is the best does not admit of an invariable answer. No system is good or bad, in all ages and among all peoples. No *a priori* speculation will enable one in a library to determine in advance what form or kind of government will be best adapted to a particular people. Mathematical precision is unattainable in politics. Government and legislation are practical things to be judged, not so much in the abstract as in the concrete. Constitutions and laws are, or ought to be, a growth. The philosopher, Locke, failed utterly in drafting a Constitution for the Carolinas. Abbé Sieyès and the French philosophers made a litter of constitutions for the "Republic, one and indivisible." Government is a means to an end, and that end is to establish and maintain justice, to secure life, liberty, property and the pursuit of happiness. The disparity in the powers and faculties of different persons creates a necessity for government, and civil society is dependent on government. Strictly speaking, government is an agency of the State, liable to change or modification in order to accomplish the purposes of the agency. A State may use many agencies, but ordinarily, the State and the government are used as convertible terms. Such a truism, as that a government is only a means to an end, need

to be constantly repeated, for some speak of government as if it were the end, the *ultima thule*, of all civil society.

Our State government is republican and, by a convenient and popular fiction, is said to derive its just powers from the consent of the governed. It is not a Democracy. That is a government where the people rule absolutely; where their will, "whenever, wherever, or however expressed," is the supreme law. In a democracy, there is needed no constitution, no definition nor limitation of powers, no restraint upon popular will. Such is not our theory. The State allows to certain citizens a voice in controlling its action. That privilege, or duty, is called the elective franchise. Universal suffrage is a clap-trap phrase; so is manhood suffrage. Neither ever existed, in totality, in the United States. Universal suffrage is a myth, and manhood suffrage is modified by mental and moral delinquencies and by a purely arbitrary determination of the time when one becomes, in the eye of the law, a *man*.

Suffrage is not an attribute of humanity, nor a natural right. In a state of nature no such thing exists, no more than the right of majorities. These are conventional rights or privileges, agreed on and then established by law. Theories of absolute, universal equality are mere theories, never anywhere actualized in government. Women do not vote, nor minors, nor idiots, nor prisoners, nor felons.

Who shall vote is a problem into the solution of which many elements enter. The right consideration in settling the question is, how can the best government be secured; how can the best interests of the people be subserved? The State must adopt the best practicable means for these ends. If manhood suffrage be the best, adopt it; if limited suffrage be a better expedient than that, then the ends of good government must be striven for and, if possible, secured, independent of any closet or radical theories about suffrage. The machinery of a government was not devised, and is not kept up at immense cost, to enable a man to put a piece of paper in a ballot-box.

Supposing that a property-holder would have so much at stake in the government as to protect property, lighten taxes, and secure order and justice. Virginia once made the possession of so much property a condition precedent to voting. That restriction was removed, but Virginia has never been so quixotic as to adopt any system approaching universal suffrage. The general principle recognized is, that those who have an intelligent perception of their rights and duties may vote. Intelligence, moral impulse to prescribe and observe the rule of right, a disposition to conserve rights rather than to infringe upon them, were qualifications had in view by our law-makers.

The common presumption that a class of persons, consistently with the safety and well-being of the government, may be entrusted with suffrage, can be rebutted by acts, involving moral turpitude, or showing such deficiency in mind, or such a condition of dependence, or such want of opportunities, as to unfit for appreciating the prerogative. Obviously, an idiot cannot vote. A felon should not be permitted. A certain antecedent and continuous residence is required

to exclude aliens and to secure a sufficient acquaintance with public affairs, with men, and with the interests and needs of the State. This requirement of previous residence is based on the necessity of having, on the part of the voter, some interest in the government, and some information about men and parties and measures.

At the last election, by a vote of 129,373 against 98,359, a majority of 31,014, it was decided to restrict suffrage by other and wise conditions.

Besides the exclusion of sailors, soldiers, traitors, felons, the Constitution of Virginia was so amended as to prohibit from voting persons convicted of petit larceny, and such persons, also, as shall not have paid to the State, before the day of election, the capitation tax required by law for the preceding year.

The General Assembly, we are sure, will carry out, by appropriate legislation, the emphasized will of the State. To exclude thieves from voting is so right in itself that no defence of the constitutional provision is necessary.

The pre-payment of a poll-tax as a qualification for voting is capable of being sustained by conclusive argument. If we exclude those whose moral and intellectual defects render them incapable of perceiving their true relation to the State and its laws and interests, the exclusion might, without injustice or harm, be so enlarged as to embrace paupers and those who stubbornly and wickedly refuse to contribute a mite to the maintenance of liberty and order and good government. Taxation, without representation, was regarded by our Revolutionary fathers as an unendurable wrong. They claimed that those who paid the taxes should have a voice in assessing or levying the taxes. To allow non-tax-payers to control the levying, collecting and disbursing the public revenues, seems as unjustifiable as the claim set up in Great Britain to tax the unrepresented colonists. A report to the Common Council, of the City of Richmond, from the Committee on Finance, 7th of December, 1874, states that "over nine thousand registered voters in the city do not contribute, in the aggregate, one cent to the Treasury." (See *Dispatch*, Dec. 9, 1874). If this class of the population, so numerous and potential, had ever been induced, under the influence of demagogues, to combine, to what forced levies and legislative robberies would property have been subjected? What safe guaranty is there for property, what stimulus to its increase or investment, if liable to seizure, or spoliation by the votes of a populace, inflamed by agrarian and communistic notions. Women are regarded as having no separate political existence, and their exclusion from the elective franchise is a thousand times more indefensible than the exclusion of men who will not pay the paltry sum of one dollar to support the government or defray the education of their own children. "Property and law," said Bentham, "are born together and die together. Before laws were made there was no property; take away law and property ceases." Desire for property is instinctive—God-created. Man craves more than what is sufficient to satisfy present

appetites. He wishes to accumulate, to guard against want, to provide for his children, and our organic law seeks to stimulate this natural feeling by holding out a prize, a reward, to allure the citizen to industry and thrift and economy. The qualification lately superadded is one, to use Mr. Sumner's language, "attainable to human effort." If men are so lazy or improvident or stupid that the desire to acquire property cannot be stimulated in them; if they have no patriotism, no love of their kind, no ambition for improvement, they should be deprived of the power of injuring or governing those who have higher instincts and nobler aspirations.

Henrico county, Va.

C.

NOTE BY THE EDITOR.—We thank our correspondent for the above. It is worthy of his reputation as a scholar and a statesman. As bearing on this matter of unrestricted suffrage, we beg to submit to our readers a letter written by Lord MACAULAY to Mr. HENRY S. RANDALL, of New York. Mr. Randall had sent to Lord Macaulay a copy of his "*Life of Jefferson*," and this letter is in response to the compliment:

HOLLY LODGE, KENSINGTON, LONDON, May 23, 1857.

HENRY S. RANDALL, ESQ.:

Dear Sir:—You are surprised to learn that I have not a high opinion of Mr. JEFFERSON, and I am surprised at your surprise. I am certain that I never wrote a line, and that I never, in Parliament, in conversation, or even on the hustings—a place where it is the fashion to court the populace—uttered a word indicating an opinion that the supreme authority in a State ought to be entrusted to a majority of citizens *told by the head*; in other words, to the poorest and most ignorant part of society. I have long been convinced that institutions purely democratic must, sooner or later, destroy liberty, or civilization, or both.

In Europe, where the population is dense, the effect of such institutions would be almost instantaneous. What happened lately in France is an example. In 1848 a pure Democracy was established there. During a short time there was reason to expect a general spoliation, a national bankruptcy, a new partition of the soil, a maximum of prices, a ruinous load of taxation laid on the rich for the purpose of supporting the poor in idleness. Such a system, would, in twenty years, have made France as poor and barbarous as France of the Carolingians. Happily the danger was averted; and now there is a despotism, a silent tribune, an enslaved press. Liberty has gone; but civilization has been saved. I have not the smallest doubt that, if we had a purely democratic government here, the effect would be the same. Either the poor would plunder the rich, and civilization would perish; or order and property would be saved by a strong military government, and liberty would perish.

You may think that your country enjoys an exemption from these evils. I will frankly own to you that I am of a very different opinion. Your fate I believe to be certain, though it is deferred by a physical cause. As long as you have a boundless extent of fertile and unoccupied land, your laboring population will be far more at ease than the laboring population of the old world; and while that is the case, the Jeffersonian policy may continue to exist without causing any fatal calamity. But the time will come, when New England will be as thickly peopled as Old England. Wages will be as low, and will fluctuate as much with you as with us. You will have your Manchesters and Birminghams. And in those Manchesters and Birminghams hundreds of thousands of artisans will assuredly be sometimes out of work. Then your institutions will be fairly brought to the test. Distress everywhere makes the laborer mutinous and discontented, and inclines him to listen with eagerness to agitators who tell him that it is a monstrous iniquity that one man should have a million while another cannot get a full meal. In bad years there is plenty of grumbling here, and sometimes a little rioting. But it matters little. For here the sufferers are not the rulers. The supreme power is in the hands of a class, numerous, indeed, but select, of

an educated class, of a class which is and knows itself to be, deeply interested in the security of property and the maintenance of order. Accordingly, the malcontents are firmly, yet gently, restrained. The bad time is got over without robbing the wealthy to relieve the indigent. The springs of national prosperity soon begin to flow again; work is plentiful; wages rise, and all is tranquility and cheerfulness. I have seen England pass three or four times through such critical seasons as I have described. Through such seasons the United States will have to pass, in the course of the next century, if not of this. How will you pass through them? I heartily wish you a good deliverance. But my reason and my wishes are at war, and I cannot help foreboding the worst. It is quite plain that your government will never be able to restrain a distressed and discontented majority. For with you the majority is the government, and has the rich, who are always a minority, absolutely at its mercy. The day will come, when, in the State of New York, a multitude of people, none of whom have had more than half a breakfast, or expect to have more than half a dinner, will choose a Legislature. *Is it possible to doubt what sort of Legislature will be chosen?* On one side is a statesman preaching patience, respect for vested rights, strict observance of public faith. On the other is a demagogue ranting about the tyranny of capitalists and usurers, and asking why anybody should be permitted to drink champagne and to ride in a carriage, while thousands of honest folks are in want of necessities. *Which of the two candidates is likely to be preferred by a working man who hears his children cry for more bread?* I seriously apprehend that you will, in some such season of adversity as I have described, do things which will prevent prosperity from returning; that you will act like people would, in a year of scarcity, devour all the seed-corn, and thus make the next year, a year not of scarcity, but of absolute famine. There will be, I fear, spoliation. The spoliation will increase the distress. The distress will produce fresh spoliation. There is nothing to stay you. Your Constitution is all sail and no anchor. As I said before, when a society has entered on this downward progress, either civilization or liberty must perish. Either some Cæsar or Napoleon will seize the reins of government with a strong hand; or your Republic will be as fearfully plundered and laid waste by barbarians in the twentieth century as the Roman Empire was in the fifth, with this difference, that the Huns and Vandals, who ravaged the Roman Empire, came from without, and that your Huns and Vandals will have been engendered within your country by your own institutions.

Thinking thus, of course, I cannot reckon JEFFERSON among the benefactors of mankind. I readily admit that his intentions were good and his abilities considerable. Odious stories have been circulated about his private life; but I do not know on what evidence those stories rest; and I think it probable that they are false, or monstrously exaggerated. I have no doubt that I shall derive both pleasure and information from your account of him.

I have the honor to be, dear Sir,

Your faithful servant,

T. B. MACAULAY.

[For the Southern Planter and Farmer.]

EDUCATION OF FARMER'S SONS SO AS TO RETAIN THEM ON THE FARM.

This essay was sent us by the Logan County (Kentucky) Farmers' Club. It treats of a matter of vital importance to us in the South, and we trust its consideration will not stop here. The farmer's son with us cannot now, as he did once, fare sumptuously every day and have a good time generally. The serious matters that then engaged the concern of his father fall now to his lot as well, and he must be equal to the demand. These are, indeed, the days that try men's souls, and our boys are *forced* now to be men. God grant that in their acts they may fill the full measure of men.

A very important problem, but one not easily solved. Education, as is generally known, does not commence at the time a boy enters

a school-house or college, but as soon as the child is old enough to notice ; and if a boy is intended for a farm his education should then commence. While yet in his infancy you should show him pictures of all kinds of domestic animals, and as soon as he is old enough, accustom him to go out into the barn-yard and assist in hauling, feeding, riding and working them ; thus, in early life, he will acquire a fondness for farm pursuits. Unless you can create in him a fondness for such pursuits, it is in vain to attempt to make a farmer of him—love of occupation being the most potent engine of success in any calling. After having done all that can be done to create in the boy a fondness for the profession you design him to follow—and farming is a profession—he must then be taught habits of *industry* ; make a boy industrious, and nine-tenths of his education is accomplished. Industry accompanied by enthusiasm in whatever a man or boy undertakes will work wonders. A boy thus awakened, no human power can prevent from success in life. These two things, love of occupation and industry, being instilled as early as possible, the boy is then ready for his scholastic education, which should be thorough and complete. No occupation requires more varied learning than that of the farmer ; philosophy, chemistry, history, botany, geology, minerology, the classics and mathematics, are all necessary for a farmer's education, all calculated to inspire him with a love of his calling, and afford him assistance and give him many moments of pleasurable delight when not engaged in actual work. Some may say a boy has got no time to spend in poring over books if he wants to make ends meet and pay his taxes. It can be done by economy of time and industry. Let the twenty-four hours of the day be divided into three parts, eight hours for study and amusement, eight hours for labor, and eight hours for rest and sleep ; or, ten hours for labor, four hours for reading and study and ten for sleep ; but eight hours, one third of a man's lifetime, is enough for any man to sleep. Napoleon Bonaparte slept from two to six hours daily, never over six in the twenty-four. I don't believe in a boy wasting one third of his lifetime in a school-house. All the good the schools can do him is simply to teach him how to study. After learning how to study, by dividing his time, as above suggested, he can work and study at home, and by industry will succeed. If you want a boy to stay at home, you must make your homes attractive ; you must beautify and adorn them ; make the boy more comfortable at home than anywhere else, and he will stay there. Let him have all sorts of innocent amusements around him, his horn and hound, his horse and saddle, and fiddle, all to be used at the proper time, but not during the hours of labor. Instil into him principles of patriotism, for nothing makes a man love and cling closer to home than a natural love of the soil upon which he lives. Let him know that it is his duty to take a lively interest in the political welfare of his country, that he has a right to a voice in its management and that it is his duty to exercise that right ; and he should be so educated as to know how to go about exercising it. While his body

is employed upon the farm, his mind should have something to feed upon. In every neighborhood there should be a farmer's club, a Thespian society, or a debating society, or something of the sort to accustom the boys to public speaking and familiarize them with parliamentary law, so that when they go into the towns on convention days, they may know how to do and when to strike to carry their points, and not leave the country to be controlled entirely by pot-house politicians. It is absolutely necessary for the farm-boys to be able, as soon as they are old enough, to elect the man of their choice for the various offices when they desire to do so. If our State and National Legislatures had a greater proportion of farmers in them the country would be more prosperous. All classes should be represented in our legislative bodies, but the agricultural interest more largely than any other, because agriculture is the foundation stone upon which everything else is built. The boys should be trained in the belief that they are always to be farmers, that they are not to try farming to-day, speculation to-morrow and patent-rights next day, but farmers for life. Let each one struggle for the mastery in his profession; let each try to be the largest farmer in the country; if not the largest then the best, just as that matter is managed in other professions. If he can make a profit on one hog he can double it with two; if one acre will pay a profit of ten dollars, two will pay twenty; let him be grasping; let him reach out; let him acquire more territory, and when acquired, let him master it by himself or tenants. Let him look back at those old farm estates in Virginia which have been there in the same family since the days of Queen Elizabeth. Let such be established here, and the boys must see that they don't pass into other hands. Let the men of energy and enterprise control and govern the country and drive out the laggards. If a man dies leaving a large landed estate to his son, if he has not pride enough to keep it, or industry enough to work it, let him sell it at once, and sneak off into some little inland town and fritter away the proceeds on wine, women, and tobacco, and die before he gets too poor to pay for his coffin. No matter how poor a boy is, if the principles of industry are thoroughly instilled into him no power on earth can keep him from learning. I knew two poor farm boys in Logan county who were determined to learn. They lost not a moment of time. Result of their labors: One an eminent physician in Ohio, and the other a merchant prince in the State of Missouri. I give these as examples of what determination and industry will do, and to show that no depth of poverty can keep a man down if he is determined to rise. Our present imperfect common school system affords an opportunity to any boy to get the rudiments of an education, and if his parents have taught him industry he will do the rest. It is all important that the teachers of our common schools should be competent, and before a teacher is foisted upon a neighborhood, in addition to the too easily obtained certificate of qualification, he should be required to undergo the rigid examination of three of the most competent men in the neighborhood who are direct-

ly interested before he is allowed to teach. The teacher should have good common sense, as well as book learning; he, too, should be industrious; if he is lazy, discard him at once; if he sleeps late, lounges about, don't divide and economise his time right and don't teach the children to do the same, he is unfit to teach, and will set such a pernicious example before the children as will do them a positive injury. The country is now greatly injured by trifling would-be school-teachers, too lazy to work and unfit to teach. A thorough reformation by school trustees, in selecting good teachers, will greatly facilitate the education of poor children who are unable to get a more liberal one than our common schools afford. Upon the parents the greatest responsibility rests in the education of their children. I again say, teach them industry [by precept and example. It is the key-note of success. Teach them good morals. Instil into them a tractable but not subservient disposition, and the balance of their education is easily accomplished. The main object of this discussion is to induce the boys to stay on the farm. This will be easily done, if, in early life, they are trained to habits of industry, virtue and sobriety. An example of such training is that of George Washington, who said, at the close of his second term, that "he would rather be on his farm than Emperor of the world."

Now to the point: Does it pay better to farm than to follow some other calling? If a farm can be made to pay regularly a profit of ten per cent. per annum upon the amount invested, it certainly pays as well as most other avocations. This can be done by careful management, industry and economy; not if he spends half his time in going to sales and to town on court-days when he has no business, not if he lives too high, not if he drinks to excess or gambles, but by diligence and close application and personal supervision of his affairs the ten per cent. can be made on a farm and more. If he will be moderate and simple in his diet, it will put money in his purse, and he can go out with a clear head and a light heart to the performance of his daily toil and that too with alacrity and delight. Another reason why farming don't pay is, that they stop too often—a little fatigue drives them to an adjoining shade tree. We try to live too easy. If a lawyer loiters on his way to court and don't get there in time, his client loses his case and his confidence in his attorney. If a doctor is not expeditious, his patient will die; he must not stop for sunshine or darkness if he wants to succeed; neither must a farmer work only half the time and then say farming don't pay. Farming being the chief corner-stone of all other occupations, as no country is prosperous unless her agriculturists succeed, it should, therefore, be protected and fostered by law; and if it is desirable that more men should engage in the pursuit of agriculture than do now, and as the statement of the question under discussion admits the fact, that we, as a Club, desire that something should be done to induce the boys to stay on the farm instead of swelling the ranks of the now overcrowded professions of law, medicine and bar-keeping, would it not be well enough to try to get through the Legislature a law reducing

the rate of legal interest to say three. per cent. per annum, thus forcing a larger amount of capital to seek investment in agriculture, in order to get a bigger interest—For more than three per cent. can be made at farming. Friedley, in his practical treatise on business, says that the statistics of this country will show that more men succeeded at farming than in other pursuits. More energy and less croaking is what we, as farmers, want. Our surplus money should be spent in acquiring more land or in beautifying and enriching what we have, and making ourselves and our families more happy and more contented at home. For no occupation presents a more certain way of securing an independent living, a more pleasant road to peace and prosperity, or a more desirable way to contentment here and happiness hereafter.

NOTE BY THE EDITOR.—Major DREWRY, of Westover, is held, we believe, the State through, to be an authority in farming matters. If acts speak louder than words, the condition of Westover shows what *he has done*. In a conversation we had with him a short time ago, he laid especial stress upon the advantages enjoyed by investments made now in the business of farming in the State of Virginia. He urged: Estates that were worth before the war \$100 an acre, and very hard to get at that, can now be bought readily for less than half that sum. Then the cost of the free laborer, as compared with that of the slave, is cheaper; but, with the employment of the improved labor-saving machinery now accessible, one requires but half the number of hands, to do the same work, that he did before the war. In those days muscle did the work; mind does most of it now.

BACON, speaking of riches, observes: "The ways to enrich are many, and most of them foul; parsimony is one of the best, and yet is not innocent, for it withholdeth men from works of liberality and charity. The improvement of the ground is the most natural obtaining of riches, for it is our great mother's blessing, the earth; but it is slow; and yet, where men of great wealth do stoop to husbandry, it multiplies riches exceedingly."

That our folks may be brought to think more seriously than is their wont of what our changed condition involves, and especially in the economy of crop production, as it bears on the soil itself, we have given much of our space to the discussion of soil exhaustion and rotation of crops. All things going well, we will present, in the next number of the *Planter*, a paper on the exhaustion of soils, prepared especially for us by Mr. LAWES, of Rothamsted (England).

What we have said in previous numbers will show how thoroughly, in many points, we are in accord with the author of the above essay; and in nothing more than the value of farmers' clubs, properly conducted.

[For the Southern Planter and Farmer.]

HOW SHALL WE PLOW OUR LANDS.

Many facts which have been brought to my observation have caused me to change my mind upon the subject of plowing and preparation of land, and have led me to the conclusion that the system which is at present pursued, and has been for thirty years or more in Tidewater Virginia, and perhaps all over the State, is radically wrong and

destructive to its fertility: I do not know your age, Mr. Editor, but it is not improbable that you may remember when corn and even wheat were cultivated in single beds or ridges. How the change came about I do not know, but remember hearing the farmers give this reason for it: that there was great loss of surface in the single beds, and that much of the wheat in the furrows could not be cut with the cradle, &c., and that, as a measure of economy, the beds should be wide and the water furrows small. Then the system began to prevail to have very wide beds, say twenty to thirty feet, and after a while it was thought best to dispense with water furrows entirely, and some farmers spent considerable time and labor in obliterating those that were necessarily made in plowing the field. This system has almost universally prevailed with us, and under it, our lands have very rapidly depreciated. This fact being constantly brought to my mind, I began to inquire as to the cause, and in conversation with some practical farmers, they suggested that it was probably due to the present system of flat cultivation, and called to my mind examples of continued productiveness of some few farms upon which the old system of single beds, both for corn and wheat, had been steadily pursued. My subsequent investigations have confirmed their opinion, and the more I have examined the subject the more decided is my conviction that the present system of flat cultivation is most seriously detrimental to our lands, and that it would be eminently wise in us to abandon it as soon as possible and to seek for "the old paths," or furrows, and "walk in them."

I will give you some examples confirming the views which I have expressed above: There is a small farm below me on the river, owned by a man, raised, as we sometimes say, under the "old constitution," who could not, for a long time, be induced to adopt the *improved method*, but kept the single beds both for corn and wheat. His neighbors were constantly persuading him to change to the flat beds, and at last, at the earnest solicitation of a dear friend and neighbor, he reluctantly yielded, but very soon found that his crops were diminishing and his land growing poorer. Of course he hastened to correct his error, and felt like instituting a suit against his neighbor for damages sustained. The old gentleman states that it took him five years to get his land back to its former productiveness, and that he was never again beguiled into a like *folly*. The old plan is still pursued on that farm, and this year the crop of wheat was larger on land last year in corn, without guano or peas, than on any of the surrounding farms with both pea fallow and guano. There are within the range of my acquaintance quite a number of farms upon which the old system of working the land in single beds had been continued for many years without any appreciable diminution of productiveness, and on which the owners made fair corn and wheat crops without the help of clover, guano or peas, which, after a while, came into the possession of men of more modern ideas, who changed the whole arrangement, started their three and four horse plows, turned up the subsoil, applied guano, sowed clover, peas, &c., threw their lands

down flat and the consequence is, that the land is *flat* in more ways than one, and the owners along with it. The crops of corn have most materially diminished, and wheat cannot be made without guano, and cannot be raised profitably even with it. I know that some will say that the impoverished condition of our lands is due to the long-continued cultivation, but it should be borne in mind that some of our land in Eastern Virginia, at least, had been under cultivation as long as one hundred and fifty years and was still productive, and that the rapid depreciation in its productiveness has been mainly within thirty years and since the change from single beds to the flat cultivation.

I can very well remember when our farmers started with the five-field system (keeping their lands all the time flat except when in corn, and frequently even then), and confidently believed that they would soon double their crops, but the result proved that their corn crops diminished, and their wheat crops, instead of being doubled and trebled, steadily decreased in quantity until, in some instances, they barely made seed. When they first adopted the clover fallow, it was very heavy, but gradually decreased in quantity until it was too poor to be cut for hay or to be turned in for wheat. In their perplexity they applied to Mr. Edmund Ruffin to account for it, and he said that he did not know how to explain it, except that the land was *clover sick*. Since the war this system has been entirely abandoned, and our farmers are working under the "*make-shift system*."

Another example which occurs to me *happened* with my friend and neighbor, Judge J. M. Jeffries. In the fall of 1874 he directed that the portion of his land, then in corn, that was intended for wheat, should be thrown up in single beds and the balance in double beds. The same amount of guano was applied to all the land. I was not able to decide that the wheat was better upon one portion of the land than the other. The Judge thought it was best on the single beds. The land was closely grazed in 1875. This spring the same land was plowed when rather wet, and planted in corn in the usual way, in single beds or ridges. The corn was slow starting, and when the hot, dry weather set in, a great deal of the corn on the land which had been in double beds died, and the balance made a *very poor crop*—while the corn upon the land which had been in single beds continued to grow and made a tolerably fair crop—much larger than the other, perhaps double as much. There was no difference in the treatment of the land except that stated above, and yet the difference in the product was very marked.

Another reason why we should return to the old system is, that our hilly lands are much less liable to wash, provided the rows are run upon a level, as each furrow holds its own water until absorbed, instead of running to the valleys and cutting gullies in its course to the lands or swamps. At one time no farmer considered his farming arrangements complete unless he had one or more plowmen who could run the corn rows around the hillsides on a level. Now that accomplishment is among the "lost arts." I exceedingly doubt

whether a dozen plowmen could be found in this country who could "lay off" corn beds upon a level.

It is a universally admitted fact, that swamp land, which has been water sobbed, will not produce a crop unless drained some time before being put in cultivation. Now, if that is true with meadow or low lands, is it not equally true with high land?

This manner of plowing land will not answer when the land is to be put in grass or wheat, to be cut with a reaper or mower. There will be some difficulty in managing a pea fallow in single beds, but I think it can be overcome.

I have written this article—my first for an agricultural paper—with very little hope that farmers will at once adopt the views herein expressed, but desire that investigation may be started, and feel confident that if adopted it will assist in renovating impoverished old Virginia.

B. H. WALKER.

King and Queen County, Va.

[Our friend need make no apology. If he does as well as this in his maiden effort, we are entirely content to accept all he may be pleased to offer in the future.—ED.]

[For the Southern Planter and Farmer.]

PRACTICAL SUGGESTIONS ABOUT MANURES.

Assigning to manure the same place in agriculture which "delivery" has received in oratory, I am never repelled by the triteness of the subject from any of the practical articles which, fortunately for its readers, this journal habitually presents among the substantial of its monthly bill of fare. Now and then we are treated to ingenious theories, but these, far from being "swallowed and digested," it is best to taste but lightly in passing. It appears surprising—and yet when we think of the wide scope and Protean aspects of this subject it is not surprising—what wide diversity of opinion exists with regard to it among the best farmers; opinions, too, always founded on actual experience.

Does it pay to make compost? And how can you make it pay? You find such questions constantly asked; and an endless variety of conflicting answers instantly suggest themselves to all the readers. As to this and all other points of the great question, I consider myself yet in my novitiate, and try to pursue a safe middle course, guided by the best instruction and my own limited experience. How could we definitively settle even this mooted point? Let a dozen or twenty capable men experiment on the profits of the manure from two animals with all conditions as nearly as possible identical, save only the preparation of a compost from in one case, and make exact reports of the outlay and income in such case, and we might base on the results of such experiments a general impression as to the economy of composting, an impression, however, subject to modification by the conflicting results of as many more careful experiments the next season.

Laboratory experiments may harmonize, but in field experiments so many conditions are beyond our control, if not even beyond our investigation, that we can but approximate truth. So much the more and more carefully must we experiment and compare notes among one another. We will learn enough for safe practice. The compost men muster strong on paper, but it is remarkable how few have put their views into practice. Their antipodes who "go their length" or more on guano, are more reticent. Some there are yet of unshaken confidence; but most think and feel, from an inspection of their balance sheet and of their wasted fields, that they surrendered too easily to the seductions of convenience, hope, flattery and pretended science. A middle course between the two extremes seems safest, until, if ever, we can get fertilizers of known value at fair prices. Beyond doubt we err, nearly all of us, in neglecting to provide sufficient shelter and crude material for the production of manure.

Let us suppose ourselves thrown entirely on our own resources; the guano isles exhausted, the last factory destroyed, and then, with an abundant supply of farm manure, let us resort to auxiliary preparations to augment, but not to extend our crops, just so far as experience teaches it will pay.

That was a profitable discussion in a recent Grange meeting in this county: Whether manure should remain in the stable unaltered until Spring, be applied as fast as made during Winter, or thrown out and rotted previous to application? One would expect to hear a good deal plausibly said for each method. From a limited experience of all three, the writer settled down on a combination of the first and third plan, rejecting the Winter application with some regret because of its convenience. The coarsest forage, such as top-fodder, being fed first, the manure and litter is thrown under a slab shelter, with a leaky roof, which admits water enough for decomposition, without leaching or heating. The heap is guarded against the latter extreme by forking over at the proper time, with the addition of a little plaster, and in the Spring all is crumbled to a homogeneous mass, ready for assimilation by the crops. For the remainder of the season the manure remains undisturbed with the occasional addition of some absorbent in a decaying condition. Woods mould is excellent, or chips well rotted by several years' exposure, which thus becomes valuable. Paradoxical as it may seem, the bulk of manure may be thus considerably increased, probably one half, without at all impairing its strength, as I have found by actual test. Up to this point, composting is downright money-making, and the limit of profit is evidently not yet reached. But when it comes to making manure from heaps of muck, leaves, weeds, and the like, with a mere suspicion of richer ingredients, I confess it reminds me of the old recipes for the "transmutation" of metals; the game can't be worth the candle.

As to the application of manure: Any experience is decidedly adverse to the top-dressing of wheat. For several years I applied, side by side, like qualities and quantities of manures, harrowed in

at seeding and as top-dressing in Winter; and in every instance the results of the former nearly doubled those of the latter. These experiments, however, were on light land in every instance. Top-dressing with guano I have found profitable only where I used Peruvian or its compounds on a light snow or misty rain in February or March.

Grass is, with most of us, not looked to as a money crop, hence comes in last for its share of manure. Yet, with a good stand, hardly any application of any sort of fertilizers will pay better in the long run than top-dressing grass. Manuring in the hill, especially corn, is a poor business generally. For the last two years I have utilized ashes and hen manure for this purpose more successfully than anything else I ever tried. I mixed about twelve bushels of hen manure with four of coarse bone; fermentation soon took place, the bone rotted, and the whole mass resembled our artificial guanos. When about to use, I added four bushels of plaster and twelve of ashes; one handful to three hills made about twenty-five bushels of corn per acre on very poor land, certainly not less, and a good deal more than Zell's tobacco manure, of which I used on a few adjoining rows one handful to five hills. The proportions of this compound were dictated chiefly by the quantity of such ingredients on hand. I should prefer twice as much bone. The ashes from two fires and the manure from thirty hens during the winter, were worth to me at least \$25.

For the light lands between the mountains and Tidewater there can scarcely be any thing better than green manuring. Account for it as you may, our soil will not produce without a good deal of humus—not to speak of other precious elements acquired by this process.

I tried my first pea fallow last fall on three acres; turned under a good crop of peas much too late, as I supposed; applied with the wheat one hundred pounds per acre of Guanape, and will make twelve to fifteen bushels per acre. The land was worn out and required a little guano, about fifty pounds per acre to start the peas. As I endeavored to point out in this paper, peas and buckwheat don't come, like Dogberry's "learning," "by the gift of God," but cost *money* in some form or other. Hence we should note every item of cost with the utmost exactness, lest we be misled by a merely flattering result. My impression is, that the system of green-manuring, especially with peas, will gain popularity, as it is now doing, from the strictest test, and that it will soon be adopted by nearly every progressive farmer.

Let me close with a bit of theory, a suggestion for next year, or if too late, the year after. For a crop of tobacco, start with peas or buckwheat; turn under early in September, seed down heavily with rye, and turn under in May. Will not this plan help out the farm manures?

T. P. L.

Fluvanna County, Va.

[For the Southern Planter and Farmer.]

TO THE PLANTERS AND FARMERS OF VIRGINIA—No. II.

When, preparatory to the "late unpleasantness," those who assumed to lead public opinion, in this State particularly, and who "ran the machine" during the war, and have so done since, when they made any calculation at all of the opposing forces (for there were very few among them with thought enough to consider what the Good Book tells us the simplest would do in contemplation of such a strife—measure the forces which were to contend), all made an omission, as the statesmen (God save the mark) who have "run the machine" of the United States Government have continued to do since the war closed; and it was simply of what, for want of a better name, may be styled the *coal power*. Without entering into calculations to sustain my assumption, which I believe to be correct, it may be broadly stated that the number of tons of coal used by the North for manufacturing purposes was the equivalent of seven millions of *man power* twenty-four hours each day, or fourteen millions of men in addition to the actual population of the North opposed to eleven millions, black and white, in the South. This omission, to a countryman like myself, looks sufficient to account, I may say, *en passant*, for Southern defeat, in view of the mode in which the fight was carried on by those who controlled the Confederacy. But the evil from this omission did not end with the war. Both here and at the North, the latter being blind in its wild fanaticism, forgot, at least their conduct leads us to believe so, that the best customer for this fourteen millions of men, as represented by the coal consumed, was Southern custom, now annihilated. Take any manufacturing point North, and compare the amounts of manufacture at that point before the war and the manufacture now, and the idea I seek to express will be clearly shown. For example, the demand for engines used in the South on plantations, in Pittsburg, was, as I have reason to believe, about two millions of dollars a year. Last year the same demand was thirty-seven thousand dollars. Now, by any just or honorable or really constitutional system of taxation, the losses to the North itself would have forced her legislators to have built up the South, by not only just and true republican government, but in every way to lighten her burdens, particularly in Federal taxation, to the utmost extent, and even to rehabilitate the South at any cost of money, in order to prevent the reaction which every student of such subjects knew was only a question of time, and to which every one deserving the name of statesman in the North would or should have directed his most earnest attention; for it was demonstrable, under the terms of the proposition, that in an accelerating proportion, by as much as this fourteen millions of man power aided the North during the contest, it would be an element ever increasing in power of weakness after peace came, with the market for this coal power destroyed. May I be allowed to say, to show that these views have not been taken up "after the hole has been pecked through

the mill stone," that nine years ago they were presented to one of the best intellects in the State, and the reply was made, "I will give you my head if the country is not more prosperous in ten years from this time than it ever was." It is a fine head, and a warm heart beats under it, but it was led astray by the same fatuity which has characterized so much of the past. I repeat now, what was said then, that the consequence of the omission of this item in the equation would of necessity cause a shrinkage of values in New York and the New England States alone more than sufficient to have kept every interest (carpet baggers out of the question) in the Southern States in a healthy and prosperous condition.

I do not propose to make any deductions from the facts I state, or to reason to conclusions, but only to suggest to fellow sufferers what a plain man sees. I would far prefer, upon a suggestion of mine, that a true man would tread the path himself and reach his point, than have the credit of the demonstration.

We can all see this: that either from wilful blindness, from fanaticism or from ignorance, the blow aimed at the heart of the South struck down industries equivalent within their own borders to the labor of fourteen millions of men, and the bread of the other millions dependent upon the active use of that immense power. We see these last millions now as their life is written in the pawnbrokers' shops, and the wails of their wives and children for bread—how soon will those ominous words "or blood" be a part of their slogan? We see colossal fortunes reared, and the pampered owners of those fortunes revelling amid the tears of their poor neighbors. We see wrung from an impoverished people in six years alone more than double what we are told the national debt amounts to. We see a privileged class exempt from all taxation, federal, state or municipal. We see the frantic efforts of those personally interested in this state of things, by protective tariffs and by unjust internal revenue duties, to bolster up a sinking government, whose credit is, by a strange anomaly, so good that money can be obtained at four and a half per cent., while starvation threatens those whose labor is sacrificed to sustain that credit, and we involuntarily turn to that dark picture in history, where like causes roused all the tigers to the frightful banquet which followed; but here, for the object we have in view, we must leave all *that* to those who are directly interested, confining myself only to the questions to which I hoped to lead your attention as connected with our own State affairs.

While the state of things I have above feebly and faintly attempted to indicate was, with slow and sure steps, coming upon us, those who were so much praised by your metropolitan political press assumed the control, and "live statesmen," with "good horse sense" undertook to pilot the good old State into harbor—what have they done with the available assets under your control? Let your ruined railroads be the monumental answer to the skill of "live statesmen" and "horse sense." Let that, shall I call it "stupidity" or "iniquity," the "funding bill" be the requiem sung over the

departed fame of "live statesmen," or may be a song of joy for "horse sense;" for it may be used for either, as it has been on many occasions, for many different purposes; but you must come back to the one fact the first time noted in our history—that seven hundred and seventy-seven thousand dollars, wrung from a suffering people under the guise of a tax for school purposes, has been used for funding bill purposes, and the worthy gentlemen under whose direction this turning of a school tax into a funding bill tax has been accomplished, do not see their error, and that, too, while, if I am not mistaken, appeals were made, like *Oliver Twist*, for "more" for school purposes!

While you are turning this singular morsel under your tongue, bear in mind that a power over which we had no control has increased our internal revenue tax from not quite two millions of dollars in the year 1867 to within a fraction of eight millions of dollars in 1875. Now if you admit that those who shaped our legislation could promise (which I deny any ground for) that at the time of the passage of the funding bill we would redeem what was promised therein, if a superior power has since quadrupled its demands upon our means, shifting a burden from other shoulders than ours, to us, and at the same time, by the same legislation, diminishing the market value of the only money crop of a large portion of the State (tobacco) by the sum of three dollars upon every hundred pounds, would it require a casuist to show good reasons why, if promises were made at a time to bind us, where many were not allowed to vote, the sin is not on the conscience of the sufferer, but must rest upon those who made the unjustifiable promise, or on the superior power, who, by power, takes from us the means and more than the means upon which the promise was made to redeem the obligation, if it is a binding one? I for one have very serious doubts on the question. If there was any principle in our Court of Appeals' decisions on Confederate contracts, I might cite one or more to sustain a legal decision to absolve the State.

A. OF L.

Louisa county, Va.

NOTE BY THE EDITOR.—We, in Virginia, who make it our boast that we are a law-abiding people, must, as the Governor urges in his late message, regard the "funding bill" as an accomplished fact, and so beyond discussion. It is not only the law, but its constitutionality has been confirmed by the highest court in the State. There it is, and we are powerless to undo the work done under its provisions. Our fault, if any fault there be, lies in sending men to the Legislature so poorly fitted to fill such a position; but being there, we are bound by their acts, or representative government is an empty name. [To your private ear, we think *it is just now.*] It is absolutely certain that, if our debt is to be paid at all, *we* will have to do it. The United States will *never* touch a cent of it. We accepted war; we must, being responsible for our acts, abide by its results.

In civil wars, not much time is spent beforehand, on either side, in counting the cost, and ours was no exception to the rule. It came because it could no longer be averted. Persistent bad faith, on one side, would find a limit of en-

durance at last on the other, and that point was reached. New England, "solitary and alone," was the mother of this woe; and it will no doubt, in due time, return to vex her. The results it brought to us were disastrous in the extreme, but we would fain believe they have not been without their compensations. We would have remained, with all the wealth of material resources at our command, practically the slaves of the North; and people who confine their attention wholly to the production of raw products are bound to occupy such a position. The energies of our people now run in diverse channels, and every year finds us more and more self-sustaining. We will have manufactured as well as crude goods for sale before many years; and if we old fellows do not live long enough to see the South, through accumulation of wealth, an empire within herself, our children will. The present arrangement of our government will, after a while, break of its own weight; *it is crumbling now*. Each cluster of States having common interests will doubtless finally form itself into a distinct government, the Pacific coast taking the lead. But, no matter what comes, there is no portion of this country better able to make a living than we are, or one more thoroughly united in sentiment.

MONTESQUIEU (i. p. 175) observes: "It is natural to a republic to have only a small territory; otherwise it cannot long subsist. In a large republic there are men of large fortunes, and consequently of less moderation; there are trusts too great to be placed in any single subject; he has interests of his own; he soon begins to think that he may be happy, great and glorious by oppressing his fellow-citizens, and that he may raise himself to grandeur on the ruins of his country. In a large republic, the public good is sacrificed to a thousand views; it is subordinate to exceptions, and depends on accidents. In a small one, the interest of the public is easier preserved, better understood, and more within the reach of every citizen; abuses have a less extent, and of course are less protected. The long duration of the republic of Sparta was owing to its having always continued in the same extent of territory after all its wars. The sole aim of Sparta was liberty, and the sole advantage of its liberty, glory."

Even that little sardine-box, San Marino, has, in its day, been torn by feuds and factions, and Switzerland, though girt about by mountains, and thus protected against the encroachments of outsiders, is to-day governed by people who pay no taxes, but who command votes.

But our friend will have to possess his soul in patience. The wheels of fortune, as far as this particular country is concerned, are whirling with a velocity altogether too great for either himself or us to clog.

*"Reipublicæ forma laudari facilius quam
Evenire, et si evenit, haud diuturna esse potest."*

TEMPERATURE REQUIRED IN TEMPERING TOOLS —According to the London *Mechanic*, the color and temperature required in hardening and tempering tools, cutlery, &c., in the best manner, are as follows: For every soft temper, 630°F., color greenish blue; pale blue, 610°, for saws, the teeth of which are set with pliers; blue, 590° for large saws; dark blue, 570° for small fine saws; dark purple, 550° for soft swords and watch springs; light purple, 530° for ordinary swords and watch springs; very pale purple, 520° for table knives; brown yellow, 500° for adzes and plane irons; clay yellow, 490° for chisels and shears; dark straw, 470° for penknives; dark yellow, 470° for razors.

[For the Southern Planter and Farmer.]

THE SPECIAL TOBACCO PREMIUMS.

I ask a small space in your valuable paper to make a few inquiries and express a few thoughts concerning the principle upon which premiums are awarded for tobacco by the State Agricultural Society in conjunction with the Tobacco Exchange of Richmond. Having had awarded to me a small premium for the best quality of manufacturing tobacco put on exhibition, it would seem unreasonable that I should complain, and yet I do, because I cannot divine the reason why the managers of this matter decided to offer a premium of \$200 for the best quality of English shipping, and \$200 for the best quality of Continental shipping, and only \$75 for the best quality of manufacturing tobacco. If the quality of the former was superior, its market price higher, and its production and management more expensive and difficult, the reasons for the difference made would be apparent; but this I think is not the case. As regards the relative value of the respective qualities, I think that the records of the markets during the last thirty years will show that the prices of the fine manufacturing grades have been largely in excess of the price of the best shipping qualities.

The cost of production, and the expense incurred in preparing the shipping qualities for market, I am sure is not greater than the cost of production, &c., of the finest manufacturing qualities. But if the respective qualities stood upon the same footing as regards market value, cost of production, &c., I think the fact that the fine chewing grade is retained and manufactured for home consumption, because of its superior quality for this purpose, is a good and sufficient reason why it should command the highest premium, or at least be placed upon the highest plane. The soil in Louisa, Caroline and Fluvanna counties, and in many other sections of the tobacco growing portion of Virginia, and also a large portion of North Carolina, is not adapted to the growth and production of these fine shipping qualities of tobacco, consequently, the planters in all this area of country cannot successfully compete for the premiums offered for such.

I think that there should be a re-arrangement of premiums, putting all the grades of each quality upon the same footing as to the amount of premiums offered for each. I am aware that the offer of these premiums is gratuitous, and therefore they may be arranged and awarded at the option of those who propose to give them. But supposing the purpose to be to stimulate and encourage industry and skill in the production and management of tobacco, I think the end will be more successfully attained by putting all competitors upon the same footing, and awarding the premiums according to merit. I do not say, or intend to intimate, that this was not the purpose and desire of those who graded the premiums; but I say I cannot see equality and justice in the present arrangement. I would, therefore, like to have the case explained, and shall be satisfied if it

is shown that the present system is founded upon correct and just principles; otherwise, I am one of many who will decline to work for and earn the greater but receive the lesser prize.

Louisa County, Va.

J. M. BAKER.

NOTE BY THE EDITOR.—The complaint of our correspondent is not unnatural; for it was a most extraordinary thing that a list of premiums should be arranged for tobacco, *leaving out entirely* the type that furnishes the stock for every factory in Richmond that manufactures fine brands of chewing tobacco. The sweet sun-cured tobacco of Caroline, Louisa, Fluvanna, and the region immediately contiguous, is something standing alone, for no portion of the world besides can produce the like. A friend of ours finding, on scanning the list, that no provision whatever had been made for this important type, at once sought those who had the matter in hand, protesting against this injustice. He was able to secure this much: it was to be classed with the "brights"—a rather poor lodgment, to be sure, but a good deal better than nothing. But for this effort of our friend, Mr. BAKER wouldn't have got his \$75.

We do hope that if ever anything of the kind is attempted again, ample time will be taken to digest the matter fully, so that the end designed by the offer of the premiums, may indeed be accomplished; then we shall have praises instead of complaints.

[For the Southern Planter and Farmer.]

A REPLY TO MR. JACKSON ON THE TIMBER QUESTION.

As one of the ancients, I reply to the very sensible question from your correspondent of Amelia as to the proper time to cut timber. Doubtless there is a difference in this respect between the evergreen and deciduous trees, though as to them the question is no less important than as to other trees.

An experience of over forty years, accompanied with good opportunities for observation, has brought me to the conclusion that mid-summer, or the time when trees have fully elaborated their growth for the season, is the proper time to cut timber. It would seem that nature had then stored up in the growth of all trees that supply of what was necessary for the development and maturing of the fruit of the plant. Whether the tree produces fruit or not, the law is general, and the young and old growth alike partake of the benefits of the principle. This is not mere conjecture, it is illustrated every year by the surprising demands made upon trees when they produce abundantly their natural fruit. Surprise and admiration attend the prodigious crops of acorns we have seen the oaks loaded with this year. Whether an untimely frost or some other natural cause has interposed, yet the process of storing up the material for further development goes on in every tree every year; then is the time when timber weighs heaviest; then is the time to cut trees with a view to their durability.

I could go on and give numberless cases that have come under my own observation to verify my theory, and to come home to myself,

say, that it is common in this region for the saw-mills to work in our forests throughout the year, and that I have now on hand a large lot of white oak timber sawed in the summer which possesses in a high degree the qualities of weight, hardness, and compactness which belongs to wood cut in the summer. It cracks so little that by that test alone, I fancy, I could distinguish oak cut in the winter from the summer cutting.

This subject has been repeatedly discussed and learned articles written by Duhamel, Pickering, Peters, and, I believe, by Gen. Wm. H. Harrison. Some especial interest was excited by the circumstance that vessels built for the fleet on the lakes in a hurried manner, from timber cut in the summer, were found to be sound years after the war of 1812, when vessels were rotten which had been constructed of winter-cut timber. It is notorious that the North Carolina pine, which has been bled for turpentine, has the texture of the wood impaired, and is not as strong or lasting as pine that has not been bled. I have had pine cut in the summer which, if skinned or hewed as is necessary to prevent mildew, lasted certainly better than winter-cut wood, having both on an exposed bridge across the Rappahannock, where I noted the difference.

Timber getters mostly work in the winter, merely from convenience. Such wood as poplar, chesnut, cedar, cypress, and perhaps ash, last well cut at any season. It is different with oak—and after all, men will get timber when it suits them best. No questions are asked as to the month the tree was cut in; and farmers rarely have time to cut timber at the period when the demands of the farm are most exacting. It would not take many years for one interested in the subject to store away pieces of various kinds of wood cut at different months and weigh them and note their strength and freedom from cracks.

J. R. BRYAN.

Fluvanna County, Va.

[For the Southern Planter and Farmer.]

COL. BEVERLEY EXPLAINS.

In the *Virginia Patron* of the 10th of November, I see an editorial based, it is alleged, on information from a responsible party, to the effect "that a large exhibitor, a member of the Executive Committee demanded a place for his own stock in stalls already occupied by another exhibitor, and when the latter refused to yield, the officer showed his 'badge of office' and enforced his power." It would be far better if disappointed exhibitors would always state *truths* and not try to bolster up the inferiority of their stock by such fabrications as the above. I state that I have been the member of the Executive Committee for the last three years who has had charge of the cattle department, and that *I have never been an exhibitor at the Virginia State Fair in my life of any animal or anything whatsoever*, as the records of the Society will show; nor have I ever been in any way whatever interested in any stock on exhibition, there-

fore the charge is *utterly false*. I was not aware of any dissatisfaction by anybody in the management of the Cattle Department. I heard no complaints. The only instance in which every exhibitor did not get the stall he wanted, that I am aware of, was a gentleman from Henrico or Richmond city (I do not know his name), who brought one dairy cow out there and said he had entered her in box stall 95 by the diagram in Secretary's office. I told him there was no such box stall on the grounds; the box stalls were 68 to 85 inclusive, and they were taken by exhibitors Palmer and Bowman; that his number, which he brought on a piece of paper, was an open stall, now occupied by Mr. Ogleby's short-horns, and I desired to stand all the short-horns together—so with the other different grades; but that he could have his number if he desired it, but I much preferred he should take a stall near the dairy cows equally good; that his cow would make a bad show in a stall among the shorn-horns. He consented to it and I heard nothing more of it. Mr. Ward, the Superintendent, assigned him his stall. I have no idea whether or not the party referred to received a premium, or whether or not he lodged the complaints, but I should think not. This is the only case in which I was called on to exercise any authority; but it is necessary for some one to be in authority to prevent bickerings and strife among exhibitors and their attendants, and as long as I occupy that position, I shall act with promptness and fairness to all, as far as is in my power, with an eye to the interest of the Society, regardless of the vituperation of disappointed exhibitors. I have been a life member of this Society since its organization, and, as one of its officers, have spent a great deal of time, labor and money to serve it to no profit to myself, and am ready to resign my position to any man competent to fill it, but not to a narrow-minded, disappointed exhibitor who has his own interest and not that of the Society at heart.

Fauquier County, Va. ROBT. BEVERLEY.

NOTE BY THE EDITOR—At Col. Beverley's request we insert the above, although as the article that called it forth was published in the *Virginia Patron*, the reply should properly have appeared there. We have nothing to say in the matter beyond this: it would seem to be proper that the details of the Fair should be so arranged as not to require the services of a visiting gentleman (for that Col. Beverley really was) to look after them. The arrangement of stalls, and how they should be disposed of, is so thoroughly a business of mere routine, that some employee of the Society should have been provided to do the work.

[For the Southern Planter and Farmer.]

EXPERIMENTS WITH CHEMICAL MANURES.

To restore to land the chemical ingredients which a crop of wheat extracts from the soil is said to capacitate the land for its reproduction. This is beautiful in theory, but theory is too frequently, alas! but the frost-work of fancy, as the following experiments will demonstrate:

Experiment No. 1. An acre of land was seeded with one bushel

of Fultz wheat, which did not come up until December; applied the necessary ingredients to make $19\frac{1}{2}$ bushels of wheat, costing \$4.25; product, enough wheat to sell for \$4.36, at 2 cents per pound.

No. 2. An acre: applied sulphate ammonia, 100 pounds, costing \$5.25; value of wheat, at 2 cents per pound, \$2.20.

No. 3. An acre: applied nothing; cost of seed wheat, \$1.60; value of wheat made, \$1 02.

No. 4. An acre: applied George Forrester's potato fertilizer, costing \$4; wheat made worth \$2.40.

No. 5. Popplein's silicate of potash [phosphate] costing \$4.08 per acre; wheat produced worth \$1.60.

Aggregate value of fertilizers,	.	.	.	.	\$19 18
Cost of seed wheat,	.	.	.	.	8 00
Paid for threshing,	.	.	.	.	2 50
Paid for cutting 5 acres,	.	.	.	.	2 50
Two and a half days with plow, mules and driver,	.	.	.	.	3 75
Half day harrowing,	.	.	.	.	1 25
					<hr/>
Aggregate amount of cost,	.	.	.	.	\$37 18
Value of all the wheat at 2 cents per pound,	.	.	.	.	11 42
					<hr/>
Loss,	.	.	.	.	\$25 56

I also used this Spring Professor Nicol's manure, said to produce 100 bushels of Indian corn to the acre, and this acre only produced 17 bushels.

I used also Stockbridge's fertilizer with very unsatisfactory results.

Also 100 pounds of nitrate of soda on oats, which improved the oats in appearance, but did not repay half the cost.

This year was uncommonly dry in my immediate neighborhood, and where no fertilizer had been used at all, the product of corn was not more than half its usual yield. The experiments on wheat were made on poor land, to test the accuracy of the chemical theory, but they all proved a failure in my hands this year. Farmers, I think, would benefit agriculture by subjecting the various fertilizers thrown on the market to a series of experiments to test the intrinsic value of each, and subject them also to the test of weights and measures, to facts and figures.

ROBT. HARRISON, M. D.

Prince George County, Va.

[For the Southern Planter and Farmer.]

A MOST INTERESTING LETTER.

About a year ago, some unknown friend sent me a copy of your valuable journal, and to say that I was much pleased with it would but feebly express my opinion of it. If the farmers of the South will but follow its teachings and emulate each other in promoting its

(and their own thereby) prosperity, they need have no fears for their future success.

The number sent me was for August, 1875, and on page 454, I found an article (Breeding and Feeding Pigs) which I consider well worth a year's subscription to any farmer. It started a new train of thought with me, and I believe that if the principles their exhibited were universally applied to the breeding and feeding of *all* stock, it would be the grandest stride of improvement made in agriculture that has been witnessed in this century.

Now, then, I am no letter-writer or famous story-teller, but a plain, practical farmer, with a warm place in my heart for my Southern brother farmers and husbandmen, and should the editor not summarily consign this to the waste basket, I should be right glad of a "name and a place" in the family circle of the *Planter and Farmer*.

And now for a bit of my experience the past season : Last Spring when planting my corn I took one piece, containing about one and a half acres, and, after plowing, a light coat of stable manure was spread on, then thoroughly harrowed and marked off in checks, with the hills three feet apart each way. A small spoonful of super-phosphate was then dropped, a little dirt kicked over it and the corn dropped upon this. Then, before the corn was covered, I took a small dish of Swede turnip seed, and, taking a pinch of the seed between my thumb and first finger, started out, keeping my hand over the rows, and giving my thumb and finger a slight movement when over the hills of corn, so as to scatter a few seeds in each hill. The corn was then covered in the usual manner, and the corn and turnips came up together. At hoeing time the turnips were thinned out to one in a hill, unless the corn had failed to come up, then two were left growing. I ought to say, just here, that my turnip seed gave out when I had planted a little more than an acre, and consequently, part of the field had no turnips on it. The result is, that I gathered a fine crop of corn from the yield, with no perceptible difference in yield between the part bearing turnips and that which bore none ; and one hundred and seventy-five bushels of as handsome Swede turnips as I ever saw besides. These I am feeding to four pigs now two months old, and a breeding sow. My manner of feeding is to boil about four bushels of turnips and three bushels of apples together, (apples being very plentiful here), adding a little meal when cooked, and what milk and slops come from the house. My pigs are doing finely now, and if the editor desires, I will give the result, at the proper time, as I intend to slaughter them when about eight months old. My turnips did not cost me over two cents per bushel, up to the time of harvesting.

My manner of harvesting is to drive a cart over the field, taking from four to six rows at a time, and throwing them, tops and all, into the cart, then drawing them to the house and dumping them near the cellar window, where they can be easily thrown in as the tops are cut off. This leaves the tops where they can be fed as you desire ;

and I would only add further, that there is no danger of giving the milk a turnip flavor if fed to milch cows *just after being milked*.

J. O. LANPHEAR.

Windham County, Vt.

NOTE BY THE EDITOR.—This is a most unexpected letter and from a most unexpected quarter. The "Green Mountain State" has, of late years, shown a bitterness towards us in the South as cruel as death. We, therefore, appreciate the kindness of our friend the more, and say to him that our pages are always open to any communication he may be pleased to make for the benefit of our readers. It is a horrible thing that the United States should be the Empire of Hate, but so it is, and so it will remain unless the conquering part of it will give some evidence of magnanimity. Thus far it has kept the wounds of war torn open, and if irritated much longer, they may never heal.

[From the New York World.]

TWENTY MILLIONS IN BEEF.

A good share of the best beef in the Western markets comes from the plains of Colorado and Wyoming. The supply is increasing every year, as the shipments from the cattle-yards at Cheyenne, Denver, Deer Trail, Las Animas and other points show. The best ranges are now largely occupied, and the valleys of the Platte, Republican and Upper Arkansas fairly swarm with cattle. Some of the best known Texas drovers have removed their herds from the Red River country to the Platte. John Hittson's great ranch on the Bijou, a tributary of the Platte, where his herd of 40,000 head are grazing, and the ranches of John W. Iliff, J. P. Farmer, and other "cattle kings," now located in Colorado, are examples. The State Auditor's books show that there are a half million head of cattle within our borders and over 200,000 in Wyoming. As large numbers escape assessment by being transferred over the line, back and forth, at the proper season, it would be a fair estimate to say that there are a round million of cattle grazing in the two Territories. They are worth from \$10,000,000 to \$12,000,000, and when marketed at Kansas City or Omaha, twice that sum. Last year's shipments from Colorado were estimated at 90,000 head, worth in market \$2,700,000; and the shipments from the Laramie plains in Wyoming over 25,000—showing in round numbers a product of about \$3,500,000 in beef raised for market on the Western borders of the "Great American Desert."

The shipping season is generally from August to November. Sometimes the drovers hold back, as they did this season, for better prices, resulting in a great rush for the market the latter half of October and the first two weeks in November, taxing the railroads beyond their capacity. There are now awaiting shipment, between Denver and Kit Carson on the Kansas Pacific, from Pueblo to Las Animas on the Atchison, Topeka and Santa Fé, and from Cheyenne to Julesburg on the Union Pacific, thirty or forty thousand head of

cattle, which will be got into market as rapidly as cars can be provided. During October there were 460 car-loads taken eastward from points on the Union Pacific Railroad, most of them being loaded at Cheyenne and Julesburg, and coming from herds on the Laramie Plains and the Platte Valley. For the four months ending with October, 1,561 car-loads had been shipped from these points. The shipments by the Kansas Pacific from Denver, Box Elder, River Bend, Deer Trail, Kit Carson and Las Animas during the past two months have been very large. One hundred and fifty-three car-loads were shipped from Las Animas alone during October. The total shipments for the season, from the above stations, have probably been 20,000 head. The Atchison, Topeka and Santa Fé line has stock-yards at Pueblo, West Las Animas, Granada and one or two other points within Colorado. Their shipments have been considerable, but I could not obtain the figures. Last season they took 8,043 head from Las Animas and 8,074 from Granada. Large numbers bound for the Eastern markets were driven out of the State, feeding leisurely along, and finally loaded on the cars at Dodge City, Great Bend or Wichita, from which stations there were forwarded in four months 37,875 head. It seems probable that there will have been shipped out of Colorado and Wyoming during this season over one hundred and twenty-five thousand fat beeves for the markets of the Missouri and Mississippi valleys. Had better prices prevailed, especially the past month, the exports would have been much greater. Shipping dressed beef to market is carried on at two or three points, and is a business of some magnitude. The slaughter-houses at West Las Animas put up and sent into Eastern markets over twenty thousand head in this way last winter. The prospects are that very large shipments will be made during the next three months. It will depend on the markets. Beef is now low, and all who are not obliged to turn their beeves into money will hold on for better times. Good steers bring but $2\frac{1}{2}$ cents per pound on the hoof, from $\frac{1}{2}$ to 1 cent less than last season. Ordinary Texans rule so low that neither buyer or driver cares to market them. The drovers on the plains are giving a good deal of attention to "breeding up." Large numbers of thorough-bred bulls have been introduced. The old Texas stock is fast disappearing, and the young improved half-breeds, which make choice beef and are far more marketable, take their place. As a result there is an increasing demand for the plains cattle. The Texas herders see this, and out of last season's "drives" from the Red River country, numbering about 350,000 head of cattle, about one-third, instead of being marketed, were driven westward to feed until another season, and then to be shipped East, as Colorado or Laramie plains beef.

While five or six years ago cattle in this section were herded in sufficient quantities only for the limited local demand, such as comes from the scattering settlements and military posts, and the business did not attract much attention, it is now grown to such importance that it seems likely in a few years to be more extensive and profita-

ble than gold or silver mining. The returns are large, and it is noticeable that a greater share of the capital that has come this way during the last year has been put into stock as the safest and best investment. There are large numbers of moneyed men, out of health, who have their cattle ranch on the plains or in the parks, and are getting the double returns of restored health and multiplied ducats.

The tendency to go into the cattle business in a large way seems to be growing. The amount of capital represented in some of the herds is sufficient to run a national bank. Five hundred or a thousand cattle are looked upon as of very small account, although from \$10,000 to \$20,000 is represented. The average herds run from 1,000 to 3,000 head. There are many having from 8,000 to 10,000, and several from 20,000 to 40,000. At only \$10 through and through, here is from \$200,000 to \$400,000 in a single herd, to say nothing of the corrals, the hundreds of ponies, the hired "cow boys," the grain and feed in store, and the reserve fund necessary in handling such a "bunch" of cattle. While most of the herds are owned by individuals and firms, the capital invested is larger than that actually employed by companies in working some of the most extensive gold and silver mines of the Rocky Mountains.

It is estimated that there are 40,000 square miles of grazing lands, fit for herding and nothing else, west of the Kansas borders, between the Union Pacific and Atchison, Topeka and Santa Fé railroads. Owing to the rapid increase of cattle many of the best ranges have been eaten off, so that new ranches, handy to water, are at all times sought for. The sheep men have been gradually invading this field. Grazing as they both do upon the public domain, the only right one has over the other is priority of settlement. The States and Territories cannot legislate upon the matter. Quarrels have at times come up, and at one time, two years ago, there was such a bitter feeling that considerable numbers of sheep were killed by the cattle men, followed by retaliation in kind. The two interests seems to be antagonistic, and, as if by common consent, the sheep men, at least those doing business on the largest scale, are operating south of the Arkansas and in the San Luis Valley. Northern New Mexico is a kind of paradise for them, though there is occasionally trouble from the fact that cattle men are also carrying on a large business in some parts of that Territory. It may not be generally known that stock-raising is an extensive and profitable business in the slow Territory of New Mexico. The largest herds are to be found there. One man owns forty-two townships, which he has stocked with 60,000 herd of cattle. New Mexico cattle are of an inferior grade, as no attention has been paid to breeding up. This is also the case with sheep, which in some districts seems to cover the country for miles. A limited number of families, mostly pure Castilians, have absorbed and owned nearly all the flocks, prominent among whom may be named the Armijo family, who have

250,000 sheep. They drive to Denver every Spring from 10,000 to 20,000 for market.

To return, however, to our subject—a talk about cattle. It seems as if the next few years were to largely change the beef supply of the East. Instead of coming from Texas, as now, the best and most will come from the old buffalo ranges in Western Kansas, Colorado and Wyoming.

There are now more cattle on the plains than ever before. Large numbers from the Texas “drives” instead of being marketed at once are driven westerly over the ranges to feed a few months before being sold. Generally, cattle winter well, without shelter or much if any feed beyond what they get by grazing. Last winter was open and mild, without any hard storms or severe winter. But the winter before that was unprecedentedly cold and thousands of cattle perished. On the average the stockmen take the chances, and come out without much loss from exposure; but it is found best to be prepared for storms and extreme weather, and it is now customary among the most experienced herders to have shelter and feed for their flocks during the winter.

The plains cattle men are not wholly dependent upon the ups and downs of Eastern markets. Some of them have a regular demand for their beeves from the markets of Denver, Cheyenne and the larger towns of Colorado and Wyoming, and large numbers are driven into the mountains to supply the miners' camps. The sales to butchers in Denver last season amounted to \$159,000, and to the mountain trade \$165,000. During the past summer there has been a brisk demand from the San Juan country and from the new towns in the Black Hills. There has been a good deal of risk and much loss in trying to drive cattle into the latter region, owing to the frequent Indian raids and stampeding; but where a man could get through safely he had no trouble in disposing of his beeves at a high price. Fat cattle are worth 8 cents per pound on the hoof at Deadwood. At the older settled towns along the line of the railways in Colorado and Wyoming the price of beef is moderate, but high enough to give a good profit to the drover. At Denver the price is from $2\frac{1}{2}$ to 3 cents. It retails in the butcher-shops at 10 cents for round steaks, and 15 cents for sirloin. The market is easily affected, in an upward direction, by an overshipment to the East, leaving a supply of marketable beeves short, or by a stampede in the winter. Very often a cold, windy snow storm will be followed by an advance, as, for instance, last Spring, when beeves advanced 5 cents per pound on the hoof, and for some weeks retailed at the butcher-shops at 20 to 25 cents per pound.

But at the low prices for beef cattle now prevailing the plains drovers have no very discouraging outlook. What depresses the Texas drover and entails upon him heavy losses has very little effect upon the Colorado drover. The cost of raising beeves, and the losses by stampede, thieving and Indians, are not nearly so great as in the Red River country. The Colorado drover can at any time

get his beef, fat and sleek, into Kansas City market, right off the range, in five days' time, and thus take advantage of a rise. On the other hand, the method of marketing Texas cattle is to drive them across the country, north, to the Kansas Pacific and Atchison, Topeka and Santa Fé railroads, taking generally two months' time, and then holding them, at considerable expense for feed, at the shipping points until prices are favorable. A hurried glance at how the Texas drover has fared in this way may be taken. He is always more or less at the mercy of the speculators, who every Spring go down early into the cattle districts and spread the most doleful accounts of the prospects for the coming season's trade. If the times are dull, and the drover hard up, they have all the better chance to frighten and squeeze him. The result is, large contracts for beeves, to be delivered at such a time to certain shipping points. Whole herds have, during the past few seasons, been bought up at \$5 per head, or culled out at \$5 per head. This is from 25 to 30 cents per 100 pounds gross. From the year 1865, when what is known as the annual Texas cattle "drives" began, until this year the business has been a series of ups and downs, more particularly the latter. Take, for instance, the experience of 1866, when the Southwest was undergoing the pinch of hard times. Every body was anxious to sell. Money was scarce. Some who could count their long horns by the tens of thousands could hardly raise cash enough for their ordinary wants. In fact, a man's poverty was almost according to the size of his herd. The "drive" of 1866 into Western Kansas numbered 260,000 head. The drover went forward with visions of better times and big pay for his beef, but was destined to meet with unlooked for difficulties. Bands of out-laws infested the "trail," and if they could not by some means make away with the drover and steal the whole herd, would at night time stampede the cattle in every direction, and seize the opportunity to gather up and hurry off what they could. His losses were fearful, and many of the raising cattle kings were "snuffed out." In latter years the Texas drover has been put to great annoyance and loss by the laws of the Kansas Legislature establishing "dead lines," and compelling shipments each year to be made at points much further west, lengthening the drives and turning them into sections where food is short and dear.

During the past eight years about 3,000,000 Texas beeves were put upon the market. In 1874 450,000 head were handled, the cost value of which at the shipping points in Kansas was only \$5,000,000; and when finally sold to butchers and packers, \$12,000,000. The grasshopper plague depressed everything. There was no feed, and so the droves hurried to market, the supply being so great and the quality so poor that prices were down, down.

The cattle-men of the plains suffer none of these drawbacks. Stock is easily raised, multiplies fast and is of better quality and generally in better condition for market than the Texas; the drovers are old hands at the trade, give a good deal of attention to improving the breeds and are carrying on their business in a methodical, business-

like way, and have good markets at their command, all of which seems to point to the "Great American Desert" as the Texas of the future.

[For the Southern Planter and Farmer.]

FODDER PULLING—REPLY TO DR. POLLARD.

I am quite surprised at Dr. Pollard's communication in the November number of the *Planter*, on the subject of fodder pulling. He first accuses me of being prejudiced in favor of the results I reached by experiments before the experiments were made. How he reached that conclusion I am left without even a conjecture. I am quite sure I have never written anything that would justify such a construction. When I first went into the experiment I had no settled opinion on the subject, but experienced farmers told me that gathering fodder injured the corn to the full extent of the value of the fodder, and that the corn might be cut and shocked at fodder pulling time, without injury to the corn, and the fodder thus saved more perfectly than if pulled. I asked the question in a meeting of the Hillsboro' Farmers' Club, whether any of the members had ever tested it, and found they never had. It was then proposed to make the test, and I was appointed to do it. As a member of the Club, and as a cultivator of corn, I felt anxious—not to create a theory, but to ascertain a fact, and I was careful to make my test infallible; and in my report, I stated particularly the mode by which I made it. Up to this time I am not aware that there exists any suspicion of defect in the mode. The results surprised every one, and I had as much occasion of surprise as any one, knowing as I did the universal opinion on this subject. The publication of my experiment, with the results, brought up the testimony of Mr. Seaborn, Mr. Ruffin, and others, in accordance with the general opinion. And here I became a contestant against the general opinion, although I found myself opposed by such men as I have named above, because I had carefully tested the question and ascertained to my satisfaction, that the general opinion was erroneous. But to avoid the possibility of doubt I tried the experiment again, and found the results the same as the first. After two carefully conducted experiments in order to ascertain the truth, it would be strange indeed not to find the party arrayed on the side of the facts elicited, and that without any just suspicion of having leaned that way before the experiments were made; I hope, therefore, that Dr. Pollard will exonerate me from that charge. Without bringing new facts to bear on the case the Doctor brings forward the old experiments of Mr. Harrison, of Prince George, Mr. Seaborn, of South Carolina, Mr. Fontain, of King William, Mr. Massie, a Pennsylvania farmer, and Mr. Ruffin, whose experiments I had examined, and showed wherein they were defective and unreliable. All these, if my memory serves me correctly, weighed their corn and did not measure it; and they did not

tell us *when* they weighed it, and I supposed it was done soon after it was gathered, while it yet retained the moisture of the summer's growth. It will not be disputed that corn put up in shocks is found to contain moisture much later in the season than that on single stalks left standing in the field, and if weighed before thoroughly dry, the shock-corn would out weigh the other. These three things are essential to a reliable test of this question; the corn must be *dry*, it must be *measured*, it must be *weighed*, according to measure bushel for bushel.

I think if Dr. Pollard will try the experiment himself, as I really hoped he would have done the last season, he will find it necessary to change his opinion on this subject. It is so easy, and the test can be so perfectly made, if there is any importance to be attached to it, it is strange that farmers neglect it. There is no subject in the whole range of farm interests more easily and reliably settled than this; then why should there be a controversy about it?

Albemarle County, Va.

S. M. SHEPHERD.

[For the Southern Planter and Farmer.]

ARRANGING WITH TENANTS.

In compliance with your request, I will attempt to give you a short sketch of my tenant-system. Immediately after the war I commenced to settle colored people on my Cumberland farm in Norfolk county, Virginia. They built their own houses, without any assistance from me. As fast as I cut and sold the wood and timber from the land, I ditched it and fenced it, (until fences were no longer required by law), and the tenants put it in cultivation. I gave them two entire crops of corn for clearing off the land, and afterwards, if they cultivated it, they gave me one half of the crop. Several years after the war I practiced taking the land, and cultivating it with hired labor after the two years had expired, but I soon found that many of the tenants were dissatisfied and spoke of leaving. I then gave leases for five years, for two years no rent, and for three years one half of the crop, but before these leases expired, I concluded, that carrying on a large farm by hired labor and a salaried overseer was one of the things that was settled by the result of the war, and that the tenant-system would pay better. I have now in cultivation on this farm about one thousand six hundred acres of black soil—swamp land—(about one thousand acres have been cleared as above stated), that I plant each year in corn without any change for seven or eight years. The first five or six years my land produced fifty bushels of corn to the acre, and the seventh or eighth year about forty bushels per acre. For about three years I have raised no corn with hired labor. I have sold the most of my tenants their teams, and given them from two to three years to pay for them, and it is a rare thing for one to fail to meet the payments. They take excellent care of their teams and never allow any one to work them unless under their supervision. I have

two plans of renting. First: When I furnish nothing but the land, (the tenant has his house, fire-wood and garden, free of charge), I get one-half of the corn and one-third of the fodder. Second: When I furnish team, and feed the team, supply all farming utensils, I get two-thirds of the corn and one-third of the fodder; in each case the tenants to gather, haul, assort and store the crop. At gathering time I divide the tenants into clubs or companies of seven or eight, when each tenant's cart is measured by putting two barrels of corn in it and the corn levelled, and a line drawn, so that each cart holds exactly two barrels. The corn is divided by the cart load, under the supervision of a white man with each club or company. Each tenant pays me in corn from the field whatever sum he may owe me for advances made him during the year. I have a written agreement, which each tenant signs, setting forth how the corn is to be planted, cultivated and gathered; in fact, every particular. This is merely an outline of my system; to write it in detail would occupy too much of your space.

A. H. LINDSAY.

Norfolk County, Va.

NOTE BY THE EDITOR.—This communication is most opportune; and we hope our friends, in making their provision in this way for the new year, will not only give heed to its suggestions, but also to the experience of Mr. TINSLEY, of Hanover, as presented in the July number of the *Planter*. Maj. RAGLAND, of Halifax, has too been peculiarly happy in his labor arrangements.

Stock Department.

CONDUCTED BY DR. M. G. ELLZEY, AGRICULTURAL AND MECHANICAL COLLEGE, BLACKSBURG, VIRGINIA.

VARIABILITY IN DOMESTIC ANIMALS.

In former articles we have discussed various points in connection with this subject; we now propose to take a more general view of the whole question. Many authors insist that variability is inseparable from reproduction, and is essentially the nature of all reproductive processes. Others maintain that the law that "like produces like" is the natural law, and it requires some extraneous influence to cause every specific variation. We have already intimated our own belief that physiologists and naturalists have overlooked and neglected the inherent individuality of the germ itself, and herein is to be found the explanation of that variability which is inherent in the very nature of the generative process. Some of our readers may imagine that they discover in these views evidences of a leaning towards "Romish doctrine." We beg to explain that we believe that God made and rules the world, but that there is no conflict between science, which is truth, and any sane man's religion, which is truth also. Theological views form neither part nor parcel, therefore, of our scientific opinions. To our mind it appears unquestionable that all the qualities of an individual are not in any case derived from ancestors, either immediate or remote, but that every individual possesses peculiarities and an individuality distinctly his or her own, by which he or she may be distinguished from every individual of the race which has gone before

or which come after them in the order of descent. This individuality is inherent in the very element which forms the perfected germ in its microscopic character. This we maintain to be the explanation of much of that variability which the Breeder encountered in the produce of his flocks and herds. Every variation from the character of the parents is too hastily set down as reversion to the likeness of some known or unknown ancestors more or less remote. Of course, within certain limits, every animal may be relied upon to bring forth young after its kind. The Arabian stallion and mare do not produce a Norman or Clydesdale colt; short-horn sire and dame may be relied upon not to produce an Alderney calf; yet that sudden and wide deviation from the type of the ancestors may occur, is evidenced in the case of the Ancon and Mauchaup sheep. Much, however, of the variability of animals is due to hereditary descent, and is influenced by causes which may be relied upon to produce more or less definite effects. Crossing the breed may be expected to produce several forms of variation—a resemblance to the type of first one and then the other of the widely differing parents—on account of the neutralization of the hereditary powers of one parent by those of the other, a reversion to the type of more or less remote ancestors on first one side and then the other, and a wide range of individual peculiarity; the opposite tendencies to development of the parents balancing each other, giving freer scope to the individual tendencies of the germ, so that from the first it becomes prepotent over both parents in the control of its own development. For these and other reasons no man is able to tell what is to be the result of any cross. This the well-informed Breeder knows. That the more closely allied and nearly alike the breeds crossed, the less variable will be the produce. A violent cross produces wide and extravagant variation, and especially reversion. A multitude of observations establish the fact, that when the parents are varying in any direction, their produce inherit a tendency to vary still further in that direction, until the limits of possibility are approached, and, that when the type of the race has varied in any direction, variation in a new direction is more easily brought about than if the attempt be made to establish this new variation in the face of the opposition of an established and unvarying type. A preliminary cross, therefore, may be resorted to for the purpose of breaking up the established type, and then the variability thus obtained may be directed into the desired channel by the skillful Breeder.

It is plain that the development of any organic being is determined and controlled by the conditions which surround it. When, therefore, the particular conditions of life have given to the breed a particular form, if those conditions be changed, the breed will change with them: hence, it has been established by observation that all changes in the conditions of life are followed by variation in accordance with the character of the changes of condition. It requires no Solomon to know that extreme climatic changes will cause both animals and plants to vary widely. The stunted pine or dwarfed oak, clinging precariously in the clefts of the rock, close beneath the shining feet of everlasting snows, cuts but a poor figure in comparison with its towering congener rooted in the rich alluvial of the plain a few thousand feet below. Cattle, when transferred from the sweet, nutritious pastures of the mountain limestone to the sandy barrens of low land regions, and driven to subsist on marsh-grass and coarse, scant and sour herbage, will reach a point of deterioration which completely obscures their origin. When feral plants and animals have their natural conditions replaced by the occult, complex influences of domestication, how widely do they vary from the feral type! Let the beautiful Southdown, the improved Berkshire, the magnifi-

cent Short-Horn, the superb Race-horse, the Trotter, rivaling the speed of the locomotive, or the modern draught Stallion, imposing in his proportions, stand for comparison with the common wild ancestors of these great breeds. But let any of these splendid and highly developed animals be abandoned once more to the conditions which surrounded them in the feral state, and an unvarying experience informs us that they will speedily revert to the common wild forms from which they were originally derived. There is, perhaps, no cause nor combination of causes, so sure to produce deterioration in all animals, men included, as an irregular and insufficient food supply. How is it with Cuffee and his Dinah at this day? What is the work that is being surely but not slowly done upon them by filth, sloth, irregular and insufficient food, insufficient clothing, insufficient fire, yea, foul and insufficient air? Is it not the work of extermination, inevitable, inexorable? Do human beings, then, vary like swine, and from the same causes? Surround your very swine with the conditions with which these people are surrounding themselves, will they not deteriorate? will they not perish? Educate them! Endow them with manhood suffrage? Bah! Hollowest of all hollow mockeries! Look upon South Carolina, Florida, Louisiana! Seek for the parallel of those scenes in Pandemonium itself; outside of hell's own capital, you will seek it in vain.

"No torch, though lit from heaven, illumines the blind;
Why place it in his hand?
It lights not him; but it consumes
The city and the land."

Let us confine our attention to the beasts of the field.

We say that more potent than all causes in producing variation in domestic animals is variation of the food-supply. Animals having their food-supply regular and increased to a maximum, and their exercise reduced to a minimum, consistent with health, with good shelter and ample ventilation, will quickly begin to show the good effect of such conditions by varying in the direction of improvement of form and early development, showing increased size and beauty. It is strange how uniformly animals vary under such conditions. In all cases nearly the leg will be shortened and the weight of carcass increased. It cannot be too constantly kept before the minds of Breeders, that there is a nearly unvarying relation between lightness of body and length of limb in all four-footed beasts. Cut down the legs and round out the barrel, and the foundation of improvement is laid broad and secure. Upon that foundation the Breeder may build for style to the point of extreme finish in every part. We assert the opinion with confidence, that without a comparatively short leg and well sprung rib it will be hard to find a beast of large size, early maturity and great propensity to lay on fat, be it ox, sheep or swine. As soon as the parents have begun to vary in this direction, under the influences above set forth, the tendency becomes the character of the off-spring by hereditary descent; and descending in both maternal and paternal lines, the effect goes on increasing, while the conditions of food, shelter and exercise remain unaltered until the limit of excellence is reached; provided, always, only those animals which excel are selected for breeders.

Let us now reverse the case we are considering. Let us take a pair of perfectly improved short-horns, or a herd of them, and turn them out to shift for themselves upon the pine barrens of the Atlantic Coast, to earn a precarious existence by infinite exertions in search of food. Let them be wintered under the lea of a

pine thicket on straw, chaff and corn-stalks, barely sufficient to maintain them alive, until the scant herbage peeps forth in Spring. Visit them when they have descended to the third or fourth generation, and we shall see that which will convince us how potent are changed conditions of life to alter the character of the breed; we shall have an ocular demonstration of the fact that variation of the food-supply will, above and beyond all other causes, impress a sinister variability upon the stock. We shall learn after awhile in America to choose our stock from their adaptation to the soil, climate and situation; in other words, their adaptation to the very conditions to which we propose to subject them. We shall after awhile learn better than to stock pine-barrens and broom-sedge, and hen-grass old fields with short-horn cattle and Cotswold sheep. Learn to select your stock with reference to your pastures, your corn cribs, your shelters, your surplus cash. That is a secret worth all the knowledge of pedigrees and escutcheons ever printed in books.—ED.

THE PROTECTION OF SHEEP.

It is a well-established, old and just principle of law which requires the doer or causer of evil to make restitution. We see, with great satisfaction, that a State Supreme Court recently (that of Minnesota) decided the law to be constitutional which taxes all liquor-sellers ten dollars each, to be applied to the support of the Asylum for Drunkards. There can be no doubt whatever that those who cause mischief, either public or private, ought to be required by law to remedy that mischief as far as practicable. That law shall protect any man in keeping a totally valueless beast running at large, which destroys property of great value belonging to his neighbor, and leaves the loser without remedy, is a nefarious absurdity. Every man who sells liquor is liable to bring down one or more persons to the level of a beast and the condition of a public nuisance, and the law justly requires him to provide a fund to amend, as far as possible, the mischief he may do before he is permitted to carry on that business. Every man who keeps a loose cur is liable to destroy valuable sheep for his neighbor, and the law ought to require him to provide a fund to undo, as far as possible, the mischief he may do as a condition precedent to keeping the dog. Nor are these ravages of property simply private losses. If dogs kill, as they do in this State, each and every year, from one hundred and fifty to two hundred thousand dollars worth of sheep, and if, as is true, the fear of dogs keeps out of the State millions worth of sheep, which would otherwise be here, together with the income which would be derived from these, but for dogs, it will appear that a handsome sum is annually lost to the public revenue by the ravages of dogs; and the State is, to that extent, paying a bonus to every thieving vagabond who keeps one, or a pack of sheep-killing dogs. None of these propositions, none of these conclusions is any man able to dispute. If, as we believe to be true, many millions worth of property and taxable income are kept out of the State, besides the many thousands of dollars of taxable values actually annually destroyed; and if, as further we believe, many a poor man is kept poor, many a well-to-do man made poor, many a well-to-do man who would otherwise come to the State, kept out of the State by failure to provide a remedy for this evil, which can easily and justly be provided—then the failure of our Legislature to provide that remedy is not to be excused, and ought not to be condoned by their constituency. We shall not notice the enormity practiced upon the rights of the public creditor; we have not the heart to argue that point any more. Those who have made up their minds to commit the shameful crime of repudiation are deaf as adders to everything which can be

said upon that point. No argument of this case can indeed be necessary. There cannot be in the General Assembly any man who thinks he is doing well to refuse protection to the most hopeful industry of the State, unless, indeed, it be one of those fellows who think it a shame that a thief should be either whipped or disfranchised; we do not wonder that such a fellow sees no justice in taxing a sheep-stealing dog; but we do exceedingly marvel that any man, passably decent and not a natural fool, should vote for such a fellow as that to represent him in the Legislature.—ED.

EDITORIAL NOTE TO MR. WARD'S LETTER.

We shall be happy to publish the views of correspondents upon the questions stated by Mr. Ward. Experiments have been made in the north of Scotland and at the University of Illinois, colder and more variable climates than that of Southwest Virginia, and the results appear to show that the unquestionable advantage of housing, on the score of economy of animal heat, may be over-balanced by the ill effects of close confinement, which may be excessively irritating to some animals. At any rate, the experiments referred to, seem to establish that some cattle do better, fed the same food precisely, out of doors than others of the same lot in stalls. Our own experience is that young, wild steers cannot be fed enough grain to keep them from falling off during the Winter in stalls and stanchions, whereas old work oxen, used to confinement and handling, will fatten rapidly under the same circumstances. Our friend, G. W. Palmer, Esq., of Saltville, as we understood him last Winter, fed two lots in stanchions, well housed, the same ration of cut and steamed corn, fodder and meal; both lots were treated as nearly alike, in all respects, as possible. One lot gained one hundred pounds, and the other lot lost one hundred pounds during the feeding. The lot which gained were raised by Mr. Palmer, handled and gentled from calfhood. The lot which lost were purchased and had never been handled before, and were quite wild and nervous. We think this fully explains the difference. We have more than once known cattle fed in open lots to do better than those housed under nearly similar food and treatment in other respects.

We have also known cattle fed under open sheds to do better than those fed in stalls. Our own plan with breeding stock is to house at night and in inclement weather, but to turn out by day when the weather is not too severe. We have also put over one hundred pounds on two-year-olds fed on corn fodder and soft frosted corn, and treated in the same manner as our breeding stock. This is, however, a many-sided question, and we advance our opinions, subject to modification, in the light of further experience. The manure, of course, can be saved in better condition and larger quantity when cattle are fed in stalls; but, fed in limited enclosures, under open sheds, there would be little loss in this respect. We would be very glad to hear from Mr. Palmer, whose operations are very extensive as a stall feeder, or from any other gentleman who may be disposed to favor us with his views on this very important question.

Knob Postoffice, Tazewell Co., VA., November 20th, 1876.

Mr. Editor,—Having read a few numbers of and being a subscriber to the *Planter and Farmer*, I wish to learn something from the pens of your various correspondents on the subject of cattle feeding, &c., for beef purposes. I do not remember of having seen anything in the *Planter and Farmer* upon the subject of housing cattle in Winter. It is certainly a very important question for Southwest Virginia to discuss; being located, as we are, not having the extreme cold and snow of the North, neither are we blessed with the mild winters of Eastern Virginia and Tennessee, but are subject to sudden changes, which are very severe on

cattle, particularly such as are not well fed. Now, the question that some of our best graziers and feeders have not been able to agree upon is: Will it pay to build barns or sheds for our cattle? I believe it is generally admitted that cattle will do better housed in bad weather at least, but it is also admitted that the expense is much greater than to winter out in the fields or wood-lands. My impression is, from the very limited experience I have had, that it is better to winter out and feed more grain, which seems to answer the same purpose; but in that I may be mistaken. Will some of your correspondents, who are engaged in the cattle business, or yourself, give the readers of the *Planter and Farmer* some instructions on the subject, as it is certainly a very important interest to this part of the State?

Yours, respectfully,

A. T. WARD.

TWYMAN'S STORE, Spotsylvania Co., Va.

According to your request, I will give you my experience and what I have observed of the different breeds of hogs. Of the small breeds, I much prefer the Essex; its good qualities are many. The meat of the Essex is beautiful for table use. In fact, there is no fault to be found of this breed—but its want of size. I find none of the large breeds which combine all the good qualities of the Essex, except the Poland China. This breed, though large, has none of the coarseness which I notice in the meat of other large hogs. I think the Poland China possesses all the requisites of a good stock hog, and is just what the farmer needs—a hog that will furnish nice meat for his table, and, at the same time, have sufficient size to pay for the food it consumes. I notice when I cross the Poland China on my common sows, that the pigs are large and thrifty, and when killed give me almost twice the weight of pork as the cross of any other pure bred on same sows. The Berkshire is a very fashionable strain of hogs, and has many excellent points, but its greatest objection is the slowness of its growth. As fine a specimen of this breed as I ever saw was exhibited by my friend, A. M. Bowman, of Augusta county, at the Culpeper Fair. Any one that has ever seen a pure Berkshire or Essex cannot be easily deceived in them; but some have been prejudiced against the Poland China by purchasing from unreliable breeders, who will sell any spotted hog, that has any Poland China in it, as “thoroughbred” to those who are not acquainted with the breed. And the purchaser is surprised that the pig, bought for Poland China, does not grow to be the fine hog it is represented to be, when, perhaps, it is not more than a fourth Poland China. Some years ago the Chester White was as popular as any breed we had; but any white hog, that had any Chester in it, was sold as pure, and the consequence was it deteriorated until the breed has almost run out. It is all important, in buying stock, that we should know the breed to be reliable. I was glad to hear our State Fair was not a failure this year, as was predicted by many. Was sorry I was prevented by sickness from carrying my stock down.

Z. C. DANIEL.

HAGUE, VA., November 30th, 1876.

Editor Southern Planter and Farmer:

Dear Sir,—In looking over the last number of your *Planter and Farmer*, I was struck with your article on Morgan Horses, and desire to correct your statement—that the old Black Hawk stock has been left without a representative since the death of Ethan Allen.

I have a very fine young stallion, four years old next Spring, descended directly from the old Morgan stock. He was sired by my father's stallion, Mohawk; he by Dr. Murray's Black Hawk, out of a Senator mare. He took the premium at the State Fair in 1870, and was pronounced, by all who knew him, as the best horse of the stock they had ever seen. He made it in three minutes on a rough road, without any training, at a very early age. My colt is out of a Paul Clifford mare, he by old Paul, he by Hill's Vermont Hambletonian, thus carrying him back, on both sides, directly to old Justin Morgan. According to your description of the old horse, I think my colt breeds back on him as much as could be possible. Indeed, in describing him, I will have to use almost exactly your words, except in color. He is a rich strawberry roan, fourteen and a half hands high. He has the mildest and most beautiful eye I ever saw; very short-legged, especially from the pastern joint to the knee, but long from knee to elbow, and

from hip to hock, stout, flat cannon bones. He is long-bodied, but the most powerfully built colt I ever saw—of bold and energetic carriage, and docile as a lamb. When first hitched he drew off as quietly as an old horse. With a little training, I think, he will make a fine stepper. I will, next Spring, offer to the public the services of this horse, whose stock you so highly recommend.

Respectfully, your servant,

B. F. BROWN.

FEEDING CORN MEAL TO COWS.

A brief article, by the agricultural editor of the *Baltimore Sun*, calls our attention to the experiments which have been made in wintering cows without long food, on a simple ration of one quart of corn meal three times a day: this, of course, when the cows have been dried. This is certainly a very cheap plan, and if it proves, upon a full test, that cows so wintered are not thereby in any way injured, dairymen will have found a sort of philosopher's stone. Not satisfied, however, with the assertion that the cows are not injured, the enthusiastic advocates of this plan of feeding, vehemently assert that cows thus fed will yield more milk and butter the next season than those fed in any other way. This is carrying the matter a little too far. If they mean to assert that they will do better than if turned out to winter, unprotected, at a pile of straw or pen of shucks, we have no doubt of it; but, if they wish us to understand that a cow fed three quarts, daily, of dry corn meal is going to do better on that ration than if fed, in addition to this meal, what good hay or corn fodder they need, or will eat up clean, then the statement is simply beyond belief. When a ruminant animal is fed meal alone, the characteristic function of chewing the cud ceases. The paunch, the reticulum, the manifold, all fall, more or less, into disuse. The general adoption of a system of feeding which shall cause the suspension of this function during from three to four months, every year can scarcely fail to seriously imperil all the functions depending upon the proper performance of digestion and assimilation. We shall remain among the doubting Thomases, with regard to the propriety of the system, until it is clearly demonstrated, by general adoption and continued success, to be harmless as well as economical. We must believe that natural conditions are better for animals than artificial ones, and that nature's method, in regard to the performance of vital functions, are the best methods. Chewing in salivation and entering the digestive cavity by the food, in small portions, at proper intervals, appear to be essential parts of digestion. Yet, while we are not ready, upon the showing which has been made upon this point, to give up the idea that nature cannot be summarily set aside without evil results, we are ready to admit that no theory can stand in the face of successful practice. It remains to be seen, whether this system, if largely adopted, would not be followed when the animals are returned to the pastures by disease, either functional or inflammatory of the long disused organs; yet, if these theoretical objections be removed by successful practice, the system which saves one half the expense of wintering cows must come into general vogue among dairymen. This novel mode of wintering has been practiced for some years by a few persons, and they continue to report favorable results. Committees from various associations have examined into the matter and made favorable reports, and yet the practice does not seem to spread.

There is a deep-seated conviction in the minds of most persons that an exclusively grain diet is not good for any animal, and especially an exclusively meal diet, such diet appearing likely to cause disorder of the digestive organs of a serious nature. We apprehend that no owner of a valuable stud would be willing to try such an experiment with his horses. Yet upon the occasion of the

great rise in the price of hay, when the price in the principal cities was nearly two dollars per hundred, many owners of livery establishments confined their stock to an exclusively meal diet, and several such have reported to us that their horses never did better; nevertheless, when the price of hay declined, they returned to the feeding of hay from a strong conviction that a mixed diet of forage and meal was better for them. In the present state of knowledge physiologists believe that no animal can be confined to any one diet without suffering in health. Physicians have accounted for wide-spread and fatal disease among men by a want of variety in their food. Certainly, under our own eyes, both scurvy and camp fever have been banished by a few wagon-loads of fresh vegetables. This is a matter of much importance, and, notwithstanding the opinions above stated, we shall watch further developments with interest.

ITEMS BY THE EDITOR.

The celebrated trotting horse, Draco Prince, record 2:24 $\frac{1}{4}$, is dead.

Pony eight inches high is the horse story copied by the *Kentucky Live Stock Record* from Allan's *Indian Mail*. His Highness, the Nawab—whatever a Nawab is—of Sahara, sent a Nepali pony only eight inches high to the Maharajah of Patiala. The pony is a perfect miniature of a well-bred horse, and is highly valued by the natives. We don't know how about this.

Gen. W. T. WITHERS' Fair Lawn Stock Farm, has sold a two-year old Almont filly to Mr. SCATTERGOOD, of Philadelphia, for one thousand dollars.

The *Kentucky Live Stock Record* tells also of a yearling filly by BLACKWOOD, Jr., which trotted three heats in 3:04, 3:02 $\frac{3}{4}$, 2:57. This over a slow track, bad weather and not a good day for trotting either.

Mr. W. W. SLYE, England, has lost his valuable short-horn cow, Grand Duchess 20th. Died of cancer.

SHELLDRAKE, an English writer on short-horn breeding of the future, as we find in the *Live Stock Record*, goes for the excessive feeders of breeding stock. We are of that mind ourself, and already upon the record to that effect. We quote from SHELLDRAKE: "It is not generally known that Col. GUNTER fed and showed two of the best Bates' Duchesses he ever bred—77th and 78th; and that he wholly lost these two splendid cows, getting no female from either of them." "Breeders who have the best should never feed for show." "The ruin following breeding had taught Mr. BATES a lesson;" and ever afterwards he publicly and privately urged that all animals, shown as breeding ones, should be shown in a natural condition." "Long feeding and showing brought Lord Ducie through disaster to the same conclusion and he ceased to show, and urged showing in a natural condition." "The wonderful ruin of so many fine cows by RICHARD BOOTH by feeding is well-known." "What a pity that so many grand cows and heifers should be ruined by meal and oil-cake." True, Oh King! Nothing on this earth more true than all that. We were glad to see at the last State Fair at Richmond nearly all the breeding stock were in good breeding condition.

Mr. SETH GREEN reports to *Forest and Stream*, that he has in the ponds at the State Hatchery, Caledonia, New York, many two-year old Grayling, eight inches long, and they appear to do well, living at peace in the same pond with California Brook Trout and Blue-backed Trout from Maine. He also has yearling hybrids between California Salmon and Brook Trout. They are hardy and well grown, resembling Salmon more than Trout. He does not report, which is always a matter of interest to know, from which species the male parents were taken. Follow-

ing a rule of wide application the male parent should be trout, which is the smaller of the two. It would be a very interesting experiment to cross both ways and study the difference in the off-spring.

MAJOR FERGUSON has turned out from the hatchery in Druid Hill Park, one million and a quarter of the young fry of California Salmon in the waters of Maryland. There are fifty thousand of these fish in the hatchery at Lexington, Va. Fish culture is assuming vast proportions in many countries and is worthy of attention by all rural populations.

The growth of Berkshire swine, without forcing, is usually considered slow compared with some other breeds. A pig fifteen months old was slaughtered at the Agricultural and Mechanical College, recently from the original pair of Berkshires, donated by Major COWAN. It dressed 330 pounds. It was not considered equal to the best form of the breed, being the runt of the litter, and was therefore castrated and turned out for a porker. The first winter after weaning it was penned about six weeks and fed shattered corn from the floor of the corn-crib; but as it did not do well, it was turned out the 1st of March; since then it was not fed. It grazed all summer as quietly as a lamb, nor ever turned over a sod that any one saw. When most ripened it fattened on acorns, and was only taken up and fed grain a few days before slaughtering. It was probably never fed altogether 75 cents worth of grain. In view of all the facts, we think that was a good pig.

MAJOR COWAN's nine cows, seven of them Rose of Sharons, bred this Fall to 5th Duke of Hillhurst, are expected to arrive in a few days at home all safe in calf.

Thanks to friends for the interest manifested in this Department of the journal. We wish them a happy and prosperous New Year. All stock men and persons interested are cordially invited to contribute their experience to its column. Correspondence invited, and will receive prompt attention.

Mr. M. L. COCKERILLE, Nashville, Tenn., writes to the *Country Gentleman* that he has purchased Capt. GIBSON's interest and now owns two-thirds of the 5th Duke of Hillhurst, that this fine young Duke is doing good service in his Rose of Sharon herd, that he has sold this season at private sale 11 heifers, all he had, from 8 to 20 months old at \$720, average. With the Duke tops he is now putting on his Rose of Sharons, already splendidly bred, Mr. COCKERILLE will have one of the best herds in the country. His cattle not only have the best breeding, but also first-class style and qualities.

Mr. B. F. BROWN, Hague, Va., writes, that he has a fine and well-bred Morgan horse, four years old, whose sire was by Dr. Murray's Black Hawk, out of a mare by Senator, a thoroughbred. His dame by Paul Clifford. The color of this horse is strawberry roan, and his breeding justifies the expectation that he may prove a valuable stock horse. We have already expressed the opinion that Dr. Murray's horse was the best of the Black Hawk family, and Paul Clifford has gotten some of the finest road stock we have known.

Mr. MILLARD, high authority in dairy matters, reports that many dairymen in New York prefer, as dairy cows, the get of Jersey bulls out of short-horn grade cows. We have seen some excellent milch cows of that composition, and strange as it may seem, the short-horns appear to cross better with the Jerseys than either the Devons or Ayrshires.

Mr. A. M. BOWMAN, Waynesboro', Augusta county, Va., reports sales of short-horns as follows: To Major S. S. BRADFORD, Culpeper, Earl of Bellevue, and to Mr. A. R. DANIELS, of Rappahannock, Royalist 2nd.

Major COWAN has sold a young bull to Mr. ROBINSON, of West Va.

The Constitutional Amendments have passed. Rejoice all ye sheep! Slink, tuck-tail and tremble, ye infernal curs! We have cut down the Legislature; we have cut off the thieves and vagabonds, white, black and yellow, from the ballot-box, and now we are ready to cut off, without remedy, all sheep-stealing curs, no matter whether Tilden or Hayes be counted in or out, as the case may be.

PROPAGATION AND PROTECTION OF FISH.—It often happens that a bold, rapid stream fed by large or numerous springs, is wholly included in the boundaries, either of one or of several neighboring proprietors. In such cases, if the proprietors would post their lands against fishermen, and protect the stream against poachers at night by obstructing it so that it could not be seined, by driving stakes in the bottom of deep pools, felling trees across or rolling in large stones, and then introduce trout, they might secure delightful sport for themselves and friends, and a splendid luxury for their tables at very small expense. Trout spawn can be had for three dollars per thousand, and may be hatched and the young turned at once into the stream at very small expense. We will be happy to furnish specific information to parties desiring it.

The Warrenton Junction Stock market as we learn from the *Warrenton True Index*, has attained very considerable proportions. Nearly all the stock cattle and sheep for the supply of the adjacent counties are distributed from that point, and are largely shipped from Southwest Va. Some cattle dealers of Loudoun and Fauquier are, however, in the habit of buying stock cattle in Chicago where they can be had cheaper, and the expense of getting them to their pastures is only a trifle greater—only five dollars per car load more from Chicago to Point of Rocks than from Wytheville to Warrenton Junction. Our railroads ought to put the price down. In the Northwestern States, cattle can be gotten ready for the market cheaper than they can in Southwest Va.; and they are constantly improving the quality of their stock. Scarcely any farmer in that section uses anything else than a thoroughbred bull, while we are pained to say, that our observation in Southwest Va., is to the effect that the scrub stock are increasing as compared with improved breeds, notwithstanding that improved bulls are to be had at very low prices. We are glad to see that there is some evidence that the farmers of Piedmont are beginning to turn their attention slowly, as farmers always turn, to the improvement of their stock. The Southwest cannot sleep upon this matter without waking up some fine morning to find that she has been supplanted as to stock cattle in an important and growing market.

WILD CALVES.—During the development of the fœtus in the cow the attachment of the placenta occupies a large part of the internal surface of the uterus from which there is an outgrowth of fleshy excrescences about the size and having somewhat the appearance of the kidney. In these curious fleshy masses are developed the maternal vessels which supply this fetal blood. Their growth sometimes becomes excessive, and after the birth of the calf in the efforts of the womb to contract, they are expelled, turning the uterus itself inside out, and of course expelling the whole mass from the body, when it hangs quite down to the ground, and presents a disgusting and frightful appearance; and is indeed very generally fatal to the cow. These bodies are usually called by the country

people "wild calves." They will inform you that they have lost a cow with "wild calves," and that there were from a bushel and a half to two bushels of the "calves" present, and this last is no exaggeration. Yet this whole mass may be carefully returned, the uterus replaced in its natural position and the cow saved by the well directed efforts of a patient and skillful person.

THE WALSINGHAM SOUTHDOWNS, which took the premium at the Centennial, have been purchased, as we are informed, by our friend Maj. W. W. BENTLEY, fifteen sheep costing \$2,000. If the dogs, which recently killed twenty-eight fine sheep for a gentleman in Washington county, should get hold of this flock they would make a costly feast.

THE DEATH OF NINETEENTH DUKE OF ARVIDSE is announced. This bull was valued at twenty thousand dollars. These Dukes and Duchesses are very unsafe investments of such sums of money. It would seem to be established that they can beat Georgie dirt-eaters dying.

IN THE HORSE MARKET.—Great depression continues and Breeders are manifesting a disposition to sell out. If well established in business, they had far better hold on. This is a splendid time to purchase high class stock. It is always well to begin business when prices are at a minimum and there is a stampede going on—by the time you get started the rise will come.

FAIRLAWN STOCK FARM.—We have before us the Catalogue of Gen. W. T. WITHERS, who has collected at Fairlawn, Lexington, Ky., sixty of the best bred trotting mares in this country, and besides, other stallions of note; almost probably the greatest sire of trotters that has yet appeared. We do not propose, at this time, a detailed notice of the stock, but of the Catalogue, which is gotten up upon principle more candid and judicious than usual. All the young stock are offered at private sale with a single reservation or exception. The pedigree and price of every animal is given, and notice is given that the one price will be strictly adhered to, and it will be a waste of time for *any one*, either in person or by letter, to seek for any abatement. These prices hold until January 1st, 1877. All animals sold to parties at a distance are guaranteed to come fully up to description, and if they do not, may be returned. Age and pedigree fully guaranteed. Time (from four to twelve months) at regular bank rate interest given to all responsible parties. All this is straightforward and to the point, and a great improvement upon the plan of catalogues generally. We commend it as a model for the study of Breeders.

[For the Southern Planter and Farmer.]

COLONEL J. W. WARE ON SHEEP.

I have read with pleasure an interesting communication, from which I quote: "Every landholder in this (his) county can keep ten sheep for every one hundred acres of land without curtailing any of the usual crops, or diminishing the amount of his other stock kept on the farm." So very low for a *grass* country is this estimate that readers must see the statements are reliable. This writer's enthusiasm does not mislead him when he states: "As for trouble and expense of raising them, I consider it less than that attending the rearing of geese or turkeys." I add, or of any other fowl.

I make some suggestions, and in doing so remind you my experience is in the large mutton sheep. Many take up the idea that a

fat ewe ought to be reduced to breed. I think not. The ewes are generally fat in the Fall, and do not go out in the hot sun to feed, but lay in the shade and feed in the night; consequently their system becomes languid, and they fail. A neighbor had a lot of fine part-bred ewes that failed; next Fall they were fat, and to reduce their flesh he put them on a plowed field, and they began to die. He requested me to see them. I saw they were dying from constipation, caused by insufficient food. They were at once put on a fine fresh pasture, and began thriving. A buck was put with them, and nearly all produced twins. My opinion is, very fat ewes should be fed a little the middle of the day, in the shade, to put their system in the right state for copulation preparatory to going to the buck. The buck going to ewes, especially ordinary ewes, ought to be put with them at sunset, after feeding him a little to induce him to attend to his duties instead of feeding, and take him away at sunrise, with two or three for company. The ordinary ewes ramble a great deal, and the large, heavy bucks cannot travel with and serve them, too, especially in hot suns.

When the lambs are coming a pen convenient should be made, with a shallow trough in it, so fixed that the ewes cannot reach it, but the lambs can get in; and if meal is kept in the trough (it takes but little), the lambs will grow fast, fatten and be fine.

Formerly, I have shown how speedily sheep are improved to a profitable standard, and what I have been able to do with them. (I will give you another under my own observation. A gentleman bought the tail of a drove of seven hundred sheep for seventy-five cents each—as the price will indicate, the worst I ever saw. He bought of me a \$100 buck—whose parents won the prizes in England—to put with them for his get. When yearlings he bought another of the same kind. The ewes of this second product he sold when yearlings, at auction, at \$25 each.)

I will make a comparison between cattle and sheep, with every disadvantage to sheep:

At four years old, a steer will sell for	-	-	-	\$40 00
In that time the ewe will have put four muttons in market				
at \$10 (one each year)	-	-	-	40 00

This rejects the four fleeces and all twins. One-fourth is sold each year, and the money is in use. If the steer dies, all is lost; if a sheep dies, only one-fourth is lost. In this neither fleeces or twins are counted, and sheep require not one-seventh the food of a steer. Is not this in every way disadvantageous to the sheep? All breeding sheep excluded for fear fancy might have something to do with it and all thoroughbreds as too costly for muttons. Took the yearling mutton, the *lowest* price I sold to the butcher for, and on grass; left out the fleece and six-sevenths of the keep, matching the single mutton of a year against a single steer. Can sheep be put under a greater disadvantage? In purchasing, butchers do not use magnifying glasses. He may humbug the farmer, but he cannot be hum-

bugged. Judicious farmers say "seven sheep can be kept on the feed of one steer." Now, let us make a comparison on a fairer basis:

One steer at four years old - - - - - \$40 00

(If he dies in that time, he and his keep to the time of his death is an entire loss; and at the best nothing is received until he is sold.)

Sheep, 7 (to equal the steer's keep) each year - \$70 00

Wool, 7 fleeces - - 17 50

\$87 50 Four years - - 350 00

One-fourth of this each year ought to bear interest until the sale to be fair. Fleece more than paying the keep makes the mutton clear, but to make these prices and advantages requires good sheep, and it is what the farmer ought to have. It requires too many of the ordinary sheep to make a small sum to be of much profit. I have shown how speedily good sheep can be generated. If they fail to be profitable, it must be because the farmer does not attend to them and their breeding and does not keep the right kind for profit. No animal requires less trouble and care. Farmers generally *overstock*, frequently remark, "We want more animals to consume grass," and mouths enough are put on to graze into the ground. The grass they had was only sufficient for a moderate stock in *seasonable* weather. A drought comes; starvation follows; the land is entirely denuded—exposed to the scorching rays of a Summer sun and Winter freezing. The animals go into the Winter too poor to get through it, many die, and by this skinning process, the exhaustion of his land and the loss of his sheep, gives a shock to his expectations; he ascribes his want of success to a wrong cause, and discards the sheep as unprofitable. If he will reverse, have fewer than can consume his grass to a skinning state, even in drought, thus leaving a sufficiency over their support to even partially protect the ground Winter and Summer, the result will be, the right kind of sheep will improve the land, manuring it sufficiently to amply remunerate for the grass they consume; will trample the ground sufficiently for wheat, and will always be muttons to command the highest prices in the best markets.

Berryville, Clarke county, Virginia.

J. W. WARE.

THE BETTER WAY TO MANAGE RAMS.

The excellence of lambs will depend, far more than owners of sheep are wont to suppose, on the manner in which the stock rams are managed during the period of service. If the rams are not fed bountifully and watered when they need a refreshing draught from the cooling stream, the proprietor of the flock of superior ewes will be greatly disappointed if he calculates on the production of large, strong and profitable lambs. If a ram is fed scantily during service and not supplied with water, and is permitted to run among forty or

fifty ewes unrestrained, he will decline in muscular strength and in vigor every day until his services are almost worthless. Every intelligent owner of live stock knows, without being told, that a ram will get far better lambs when he is fed so generously as to maintain a high degree of vigor than it will be possible for him to produce when he is kept so poorly that he is constantly declining in masculine vigor and bodily energy. When properly managed, a two or more year old ram of any improved breed is competent to serve one hundred ewes without damaging his physical energies or without impairing in the least his masculine vigor; but if managed according to the prevailing practice of farmers who keep fifty to one hundred ewes, such a thing cannot be done.

When the period has arrived for introducing the ram with the flock, the true way is to make a portable pen of four panels of light fence boards, placed four to five inches apart and nailed to upright pieces, which will form an enclosure equal to about one square rod. Such panels can be made most economically of narrow fence boards about sixteen feet in length. They should not be less than four feet in height. Then each corner can rest on a stone or block of wood. Thus the panels will be equal to a fence four feet and a half high. Let the four corners be held together by hooks and staples. At one corner make a small shed to protect the ram during storms. In such a pen the ram can be supplied with grain, grass, hay and water. The pen can be moved as often as the proprietor may desire it. Now secure a small strap of soft and strong leather to one of the hind legs of the ram. Put the strap about the leg and sew the ends together firmly. Let the strap hold a small iron ring. Next procure a small rope or cord about one hundred feet in length and three-eighths of an inch in diameter, at one end of which secure a rein-snap to hook into the ring on the leg of the animal, and tie the other end of the rope to the pen. Let the ram be kept in the pen while the ewes occupy the pasture field. As soon as the ewe is seen to loiter about the pen the indications will be conclusive that she is in heat. Then let some competent person go to the pen where the ram is, put a little dry red paint on his brisket, hook the rein-snap into the ring at the hind leg, loosen a hook at one corner of the pen, separate the corners of two panels sufficiently for the ram to pass out, and allow him to approach the ewe near the pen. As soon as they have paired once, take hold of the rope, approach the ram and drive him gently back to his pen. Proceed in this manner until all the ewes have been served. The red paint from the brisket of the ram will be seen on the rumps of the ewes. If the ram would be kept vigorous, never allow him to serve more than one leap per each occasion. One leap will be quite as efficacious as three, and perhaps more so. It is highly important to maintain the full vigor of the ram's procreative energies. When a ram is permitted to pair three or four times with one ewe, in quick succession, the draught on his vigor will be so exhaustive and so damaging that he will not be in the best possible condition to pair with other ewes

which will soon be in heat. Always keep a supply of pure water where the ram can have access to it. Let him have good hay daily, or grass if it can be obtained readily, green cornstalks or a pound or two of turnips, American potatoes or sweet apples, and a pint of oats, a pint of Indian corn and a pint of wheat mingled together as his daily supply of grain. Do not fear that such supply of grain will be too much. There need be no apprehensions of feeding a ram all he will consume of such feed as has been mentioned during the period of service. When managed according to the foregoing directions the lambs will be enough more valuable to repay for all the trouble incident to keeping the ram in a portable pen and letting him out to every ewe. We know whereof we have written from personal management of sheep for more than thirty years.—*New York Herald*.

[For the Southern Planter and Farmer.]

SHEEP HUSBANDRY IN THE TIDE-WATER REGION.

I very cheerfully comply with your request, to give my experience in sheep husbandry, not because I have been more successful than hundreds of the farmers of Virginia might have been, but to show what a little attention and some trouble will do.

In the Fall of 1873, I bought a flock of thirty-eight good ewes, with two inferior bucks, both of which were sold immediately, and replaced by a Southdown and Cotswold buck, bought of Dr. Woods, of Albemarle. This was my first mistake; it should have been a thoroughbred of one breed or the other. From these, the Spring following, I sold, in lambs, wool, four old sheep, and the two bucks sold in the Fall, enough to pay for the flock. The lambs were sold, in Richmond, to Mr. John Lindsay, at five dollars each, and I have never sold any for less than four and a half, and some as high as six. It is my practice to cull out all the old and inferior ewes, sell them at any price, and replace them with all my earliest and best ewe lambs. Up to last Spring, I had raised more lambs than ewes *each year*; then I failed, because my buck was allowed to run with my young ewes. I not only lost many of the lambs, but injured my sheep, both in size and growth of wool. This, I am sure, was my second mistake, but one which I will not make again willingly. The first of July I wean all the lambs, putting them upon the best grass I have, and the bucks, which have been separated from the ewes, turned with them to remain until 1st November, when they are again separated. I also divide the flock, putting about forty with each buck, having each flock marked, so as certainly to distinguish the lambs of different bucks, and the lambs are marked as soon as they come, castrating the bucks as soon as they are strong enough for the operation, which is usually within the first week.

I commence feeding my ewes, as soon as the grass fails to give them a good support, giving them corn and oats twice a day, until the Winter sets in, when I give them turnips or beets, as many as

they will eat heartily, and grain once. I have never had occasion to feed much hay—using, instead, the hulls from the peas picked for seed, which they relish very much. In this way I have been able to keep them in fine order. In bad weather they have access to shelters in the lot, where they are penned, an acre or two in extent, which they will manure sufficiently for a heavy crop of turnips or beets, or, what is better, put it in turnips first year, and beets the next, as, my experience tells me, beets require a nice preparation. When the lambs begin to come, they have my daily attention, as it frequently happens that the lambs require assistance—a little rubbing or some warm milk—to enable them to walk and nurse their mothers; sometimes they are left at a ditch or swamp to freeze or drown, and, for these reasons, I always, if possible, bring them up early enough to find out if any are missing, so as to see after them before night. Until, within the last few years, I never so much as heard of feeding lambs, but I believe I saw in the *Planter* how it was done, and adopted it, giving them a small enclosure, into which they go at pleasure. At first it seems only for pleasure: very soon, however, they begin to lick the meal or bran, which I usually give them. As they get older they will eat oats or finely cut beets. I have a root-cutter which prepares them admirably for this purpose, as well as for larger stock.

I have found that it is best not to give much of anything at first, but more and more as they learn to eat. If meal is allowed to remain in troughs it will sour, and they will not eat it. They should always be fed before the old sheep, as they do not eat so fast, and as the ewes finish they will leave the pens, and of course the lambs will follow. After getting rid of most all of my old sheep, and supplying my table liberally with lambs, I now have a flock of eighty-one, including two thoroughbred bucks—a Southdown and Shropshire—that will compare, favorably, with any flock of the same number in Eastern Virginia. My purpose is to continue increasing this number by saving all the ewe lambs so long as I can keep them in good health and condition, for I know it pays; and if the attention and trouble bestowed upon my other pursuits gave as much pleasure and profit, I should consider myself very fortunate.

King William county, Va.

WILLIAM V. CROXTON.

HORSES.

WHICH IS THE BEST WAY TO BREAK THEM.

I consider this an important question, and as much neglected as anything relating to rearing and fitting horses for service. A well-broken horse is what every man wishes for, and will command a readier sale, although he may be inferior in other respects. Such a horse can only be depended on. When I speak of a well-broken horse, I wish to be understood one for farmers' use. I shall only speak of breaking to harness. I will simply say that my opinion is, a colt should not be used under the saddle until it is at least four

years old. I think breaking to harness should commence at three years, but never put to hard work until five years old.

In order to break a colt as he should be, it is of great importance to have a horse that is qualified to break him with, and, in order to make myself understood, it will be necessary to describe some of his qualifications. In the first place, he should be in every way perfectly true and kind; a horse that will bite a colt is unfit for the purpose. He should be a good stepper, because this is indispensable to a good traveler. The step is what tells in a journey. There is many a horse that can trot fast, and at the same time a poor traveler. When a good stepper is found, it almost invariably follows that his other gaits are in proportion. He should also be well broken to the word. Now, I would put the colt in the stable and put the harness gently on him, keeping the doors all shut, and let him stand in the stable a few hours in each day for a few days until he gets used to the harness. After he gets over showing fear of the harness he should be placed beside the horse he is to work with, and the two harnessed together. Great care should be used not to frighten him. After getting all ready, a person should take him by the head and another hold the lines, and begin to lead him along. If he is disposed to run, hold him in gently; never jerk him; humor him in the bit until he gets used to it. After driving him around an hour or so, if he is not afraid, you may attach him to a wagon that is not too heavy and drive him in a walk; but if he is disposed to trot, bring him to the walk as soon as you can—never allowing him to break that gait until he has learned to walk well (or as fast as he can). Much may be done, in breaking a colt, to increase his speed for a traveler. As soon as he appears a little tired, unharness him carefully; see that every part of the harness is unloosened before you attempt to take it off. The next day he should be harnessed and driven as before, unless his shoulder shows symptoms of being galled. He should never be harnessed when his shoulders are sore. Great care should be used in turning about, for fear the wagon tongue may strike him suddenly and cause him to kick. After he has been driven till he has become accustomed to the harness and carriage, and learned to walk as fast as it is possible for him to do, you may commence the trot, in which he should be as thoroughly learned as to walk. It will not do to drive him far at a time, but drive him a little way and stop till he gets rested. It is as necessary to teach him to stop and start as anything else. Be sure you do not allow him to get both gaits mixed up together, which will spoil both; make him understand his business thoroughly, whatever it may be. You may now commence drawing light loads with him, but be sure not to put a heavier load behind him than the broken horse can easily draw. Always bear in mind that the gaits above described are of the utmost importance to the value of the horse, and, whenever driven, close attention should be paid to his gaits till they are thoroughly understood by him.

Now, another kind of training will be necessary for the farm. The best kind of work, to put a colt to at first is harrowing plowed

ground. This is work that will soon make him leg-weary, and it will be easy to bring the quick step to a slow one, which is always necessary for ploughing; he may be trained to this gait without injuring his step to the carriage or buggy. He should always be taught, when the lines are drawn tight, to start off free; and when the lines slacken, to come to a walk. "Whoa!" should never be said to him unless it is intended for him to stop. Some may say I am taking unnecessary pains. With such I will have no controversy. I will only say to them, try your kind of breaking (or rather no break at all) with a thoroughly-broken horse on the road, and satisfy yourselves. Many a fine and valuable colt has been rendered entirely worthless by improper management when being broken. It is no uncommon thing now-a-days to see an old horse with no gait at all—neither walk, trot, pace, or canter, but when put in motion has all four combined in a kind of shuffle.

Louisa county, Va.

F. W. C.

TRIM THE HOOFS OF COLTS.

In many instances the insensible portion of the hoofs of colts and of young horses, will grow out so round and flat that fragments sometimes will be broken off. This is more particularly the case if colts are allowed to run at large occasionally on hard ground, and gravelly and stony land and large roads. The hoofs will wear fast enough, as nature evidently intended they should. But if young horses are kept on smooth turf their feet must be kept short by artificial means. The most convenient way to trim long hoofs is to let one person hold a block of hard wood against the hoof, or hold the hoof on the square end of the wood, while an attendant cuts off small pieces with a sharp chisel and mallet. Use an inch firmer chisel rather than a larger one, as a two-inch chisel will require heavier blows with a mallet. A pair of sharp nippers (sometimes vulgarly called snips) may often be employed for such a purpose when a colt is so restive that the chisel and mallet cannot be used. We have in mind a colt, having unusually long hoofs, which had, in his play, stepped upon some hard substance, and broken off the front part of the hoof of one foot to the quick. The accident was attended with some bleeding, and excessive lameness, the suffering brute being unwilling to put his foot to the ground. Ten minutes' work would have saved the animal much pain; and the owner might have had the profit of three months' growth, instead of having it arrested for that period. But the occasional breaking off of a part of the hoof is but a trifle when compared with other mischiefs resulting from the same cause. When the toe is too long the strain on the fetlock-joint will be greatly increased, so that permanent injury to the suspensory ligament of the foot often follows. Young horses frequently have wind-galls, and other evidences of sprain, before they are put to work. In many instances such ailments occur where shortening of the toe has been neglected until the hoofs have grown to an unnatural length.

To cure a balky horse, simply place your hand over the horse's nose, and shut off his wind until he wants to go.

Editorial—Farm and Garden.

On this, the first month of our year, let the farmer lay his plans wisely for the whole year. It is said that on the first of January, the Romans held the principal festival to the God, Janus, from whom this month took its name, and on this day took care that all they said and did should be pure and favorable, and thus ominous for good for the whole year. Why should not this be applicable to the people, and especially the farmers of the present era? In this month let him commence his operations aright, and lay his plans wisely for the future. Let him reflect what is to be done by him for the next twelve months, and how it should be done; what his resources are, and how they are to be applied. Let him put aside complaint and despondency—let him understand his difficulties, and lay his plans like a man to overcome them, not overestimating or undervaluing what labors lie before him, but fully comprehending what labor and perseverance and energy will accomplish, push forward for the accomplishment of his ends. He will thus be much better employed, in our estimation, than in celebrating, in an aimless way, the advent of the New Year by congratulations, and in hoping for that which lies in the dim future, or in wine drinking and eating of "pumpkin pie."

PLANS FOR THE YEAR.—Let the farmer, then, thoughtfully, deliberately and wisely lay his plans on the first day of the New Year, or in the early portion of the month for the year. As far as in him lies, let him endeavor to improve his lands, both by proper culture, the application of all the putrescent manure he can obtain, and the use of such other fertilizers as his means will admit, and, as experience has proved, will pay on lands similar to his own. Let him observe the effects of all the fertilizers he uses, leaving out portions, where none are applied, to compare with that where fertilizers are used, so that he may go to work intelligently for another year. Ashes must be all saved and applied—and so of hen house manure, every particle of which should be saved—these two last to be composted with rich dirt and gypsum; and indeed all putrescent manures should be composted where materials can be gotten together without too much cost. Soap suds, and everything that will promote the growth of vegetation, must be carefully saved. The soap suds must be put on compost heaps, or applied directly to the roots of fruit trees and grape vines. They contain much potash in soluble form, and easily appropriated; and it has been found that potash is a great fertilizer for almost all kinds of fruits—much to be preferred to putrescent manures, which promote too much wood growth at the expense of development of fruit buds.

HAULING MANURE.—Must be done in this month wherever the ground is dry enough, and particularly when frozen. When frozen, top dress wheat, and winter oats and rye, and the grasses. Do not credit the opinion of some, as we think very unwise farmers, that the hauling out putrescent manures will not pay, for if they do not pay, we do not know what fertilizers can. For gross feeding plants, and in winter, it is not so important that manures should have fermented, or been very well decomposed. For vegetables the manures should be forked over in piles occasionally and suffered to lay until spring, and then be lightly turned in with a one-horse plow.

LIMING.—May be done in all proper weather this month, where the land requires it, and almost all lands are benefited by it. All not previously sufficiently limed, or not having lime enough originally, or not decidedly deficient in vegetable matter, require lime. The quantity to be used depends on the amount of vegetable matter in the land, and on the quantity of lime already in the soil, on the texture of the land, and perhaps on other conditions. Lime, it is known, makes the mineral and other matters found in the soil, soluble and available for plant food. Besides, many plants contain much lime in their composition, and unless this can be gotten from the natural composition of the soil, or from stable manure, which supplies a considerable portion of it, it must be supplied directly in the form of stone or shell or gas-house lime. As a general rule, one hundred bushels is a liberal application to the acre. Of gas-house lime, seventy-five bushels is generally enough. If the surface to be limed is large, or the time or means limited, then apply fifty bushels one season, and fifty bushels in the next or subsequent years.

PLOUGHING.—Must be pushed forward in this month (if not already finished) in all suitable weather. Do not neglect to prepare for the corn and tobacco

crops. The former we consider an all-important crop for every farmer. Truckers near the cities do not find room for corn, and can generally raise crops more profitable with which they can buy corn they may need. This is the only exception to the rule that every farmer should raise his supply of corn. Mr. Hill Carter spoke of it as "the head, the meat, the hay, or fodder; the manure, the clearer of land, the bedding for man and beast, the most important thing on a Southern farm." And adds, "Any farmer in Virginia, who buys Western corn, will soon have to move out West." This is a money crop in some sections, as on the Mattaponi and Pamunkey and Rappahannock valleys, and in Eastern North Carolina; and in some seasons when prices rule high in all parts of the country. Some writer had said a farmer could not afford to raise corn at less than \$1 per bushel. Mr. Carter replied that at that price "we could make more money by it than by any other crop."

TOBACCO-BEDS—Should be prepared this month. Some indeed prepare their first beds in December. We suppose Dr. Craddock's method of burning by kerosine oil will probably be extensively tried this year, as it is much cheaper and more expeditious than by wood. He states that it requires ten gallons to the one hundred square yards—(*Planter* for December, 1876).

The first statement we saw, in one of our daily papers, we think, was that it did not require more than two or three gallons for this quantity of land.

PREPARATION FOR VEGETABLES.—Manure should be gotten ready for hot beds, which should be put down this month or first of February for early cabbage, tomatoes, &c. The garden should be cleaned up and manured, sticks for beans and peas gotten ready, though peas are rarely stuck now, unless raised in very small quantity. Some truckers who desire very early peas, plant them the first good weather this month. Holes for water-melons should be opened this month, and one bushel of tolerably well rotted stable manure put in each hill and covered over with dirt, to remain until time of planting.

CARE OF STOCK.—Much attention should be paid to stock now. Good feeding and good bedding will bring them out in condition for heavy work in spring and summer. All pigs farrowed this month must be kept in warm and well littered quarters. If this is done, and the sow well fed with washes and corn and clover in the summer, the pigs will make good pork by December. The subject of hog raising is a very important one to the farmer, and one, we think, not well understood in Virginia. Of the best mode of feeding, and the diseases of hogs, we have yet much to learn. We refer our readers to "Harris on the Pig," and "Yonatt on the Hog," from which they can get much valuable information, and from the latter they can get some insight into the diseases of hogs.

Towards the latter part of the month lambs will be dropped, and they and the ewes will require constant attention. They should be separated from the rest of the flock, have good shelter, and the ewes be well fed, and the lambs in the second week be provided with meal, mixed with some mill feed, in a trough, from which the mothers are excluded; they will thus grow rapidly and be ready for market while prices are high. Cows to calve in the spring must be well fed and sheltered, and mares in foal should be separated from the horses, provided with large, roomy quarters, well littered, and be well fed on grain and hay, with an occasional feed of mixed offal, and sometimes a peck of ruta-bagas or carrots twice a day, to get the bowels in good condition. They may be moderately worked, but not overstrained or driven hard; as foaling time approaches, they should be watched, and kept quiet and undisturbed; the shoes should be removed to prevent injuring the colt.

TREE PLANTING—May be done in mild weather of this month—also grape vines, which may also be trimmed and tied up. Raspberries may also be set out.

TOOLS, WAGONS AND HARNESS—Should be put in good order in the bad weather of this month. Every farmer may very properly keep a small shop and tools necessary for repairing his farming implements. A box of brass rivets should be always kept on hand (procured from the hardware store) for the speedy and secure mending of harness.

DITCHING, GRUBBING AND FENCING—Must all be attended to in the good weather of this month.

READING.—No progressive farmer, or one who desires to inform himself about his calling, should neglect agricultural reading. Now is the time to provide good journals and good standard works on farming, and to read them carefully. The objections to book farming are all nonsense.

Editorial—General.

CHRISTMAS.

"Sanctus, Sanctus, Sanctus, Dominus Deus Sabaoth.

Pleni sunt cœli et terra majestate glorie tue."

Thus AMBROSE, with eyes to heaven, cried aloud. From the Grecian land beyond came to his ears this shout :

Glory to God in the highest,
And on earth peace,
Good will towards men.
We praise Thee,
We glorify Thee,
We give thanks to Thee,
For Thy great glory,
O Lord, heavenly King.
God the Father Almighty.
O Lord, the only begotten Son,
Jesus Christ,
And the Holy Ghost.
O Lord God,

Lamb of God
Son of the Father,
Thou who takest away the sins of the
world,
Receive our prayer.
Thou who sittest at the right hand of
the Father,
Have mercy on us.
For thou only art holy,
Thou only art the Lord,
O Jesus Christ,
To the glory of God the Father.—Amen.

In this choir broke the voice of CLEMENT :

Mouth of babes who cannot speak,
Wings of nestlings who cannot fly,
Sure Guide of babes,
Shepherd of royal sheep,
Gather Thine own
Artless children
To praise in holiness,
To sing in guilelessness
With blameless lips,
Thee, O Christ, Guide of children.

Christ, King of Saints,
All governing word,
Of the Highest Father,
Chief of Wisdom,
Support of toil,
Ever-rejoicing,
Of mortal race,
Saviour Jesus !
Shepherd, Husbandman,
Helm, Rein.

Heavenly wing
Of Thy all-white flock,
Fisher of men,
Of the saved,
From the sea of evil,
The helpless fish
From the hostile wave,
By sweet life enticing.

Lead, O Shepherd
Of reasoning sheep,
Holy one, lead,

King of speechless children !
The footsteps of Christ
Are the heavenly way.
Ever-flowing Word,
Infinite age.
Perpetual Light,
Fountain of mercy,
Worker of virtue,
Holy sustenance
Of those who praise God, Christ Jesus.
The heavenly milk
Of the sweet breasts
Of the bride of graces,
Press out of Thy Wisdom.

These babes
With tender lips
Nourished ;
By the dew of the Spirit.
Replenished ;
Their artless praises,
Their true hymns,
O Christ our King,
Sacred products
Of the doctrine of life,
We hymn together,
We hymn in simplicity,
The mighty child,
The chorus of peace,
The kindred of Christ,
The race of the temperate,
We will praise together the God of
peace.

And this song, taken up by GREGORY and BERNARD, by LUTHER and GERHARD, by WESLEY and WATTS, by HEBER and DODDRIDGE, has come down to us, ever fresh, ever joyous, and full of glory.

We, in this Southern Country, though bearing the burden of most sore troubles, must on this day, the celebration of our Elder Brother's coming, forget this burden, remembering that, beyond this little span of time, there lieth a Kingdom whose rule shall never end, and where sorrow is a stranger, and pain is unknown.

Let us then, with holly, and cedar, and ivy, and myrtle, and all good cheer, gather our children about us, and share the gladness of their innocent hearts, still cherishing a season that was, in better days, and we hope will be again, the sunshine of the whole year.

M. VILLE.

We have the great pleasure of presenting to our readers, in this number, the picture of M. GEORGES VILLE, the distinguished French agriculturist. This picture was engraved in Paris, from a photograph of M. VILLE, and reached us only last month; we have it, indeed, from his own hands.

M. VILLE was born at *Pont Saint Esprit*, in the south of France, on the 24th of March, 1824, and was educated under the care of M. Regnault. M. VILLE made his entrance into the scientific world through the publication of his remarkable work on the absorption of nitrogen by plants. He was appointed Professor of Chemistry at the Agricultural Institute of Versailles, and, also, Professor of Vegetable Physiology at the Museum of Natural History, Paris. In these positions he acquitted himself with singular ability and reputation. The quality of his work, in fact, has this witness of public esteem: his publications have been translated into all the languages of Europe.

To quote from Mr. MARTEL: "The researches of M. Ville, which are placed at the head of the most important discoveries science has yet made for the benefit of agriculture, were, like all innovations, received at first with something more than coldness and indifference. It has ever been thus: the most pregnant ideas, those destined to exercise the happiest influence upon society, are always accepted with reluctance; for they disturb preconceived notions, they upset so many plausible theories, and humble our conceit; therefore they are always met with objections and opposition from your "practical men", alarmed at the scientific rigor of the formula, and from *savans* always disposed to oppose one theory by another. But true science ultimately makes its way, notwithstanding, by virtue of that providential power which, amid a host of obstacles and diversions, finally achieves progress. * * To operate with greater certainty, M. Ville removed every element of error or doubt from his experiments, and proceeded by the synthetic method. He took calcined sand for his soil, and common flower-pots for his field. Ten years of assiduous observations and experiment led him to recognize that the aliment preferred by cereals is *nitrogen*; by leguminous plants, *potassa*; by roots, the *phosphates*. We say the *preferred* element, but not the *exclusive*, for these three substances, in various proportions, are necessary to each and all, and even *lime*, which humus renders assimilable, must be added. The facts proved in pure sand, by means of fertilizers chemically prepared, were next repeated in the soil of a field on the Imperial farm at Vincennes, at the expense of the Emperor, who, with that sagacity and tact which marked his every public act, recognized in M. Ville, (even at the time he was violently opposed and un-

popular,) the man most capable of turning the conquests of science to the advantage of agriculture; he extended a generous and powerful hand to the professor, and the most complete success has crowned his glorious initiative."

M. Ville has been good enough to furnish us with a list of his principal works. We present below the translation:

1853.—Experimental Researches on Vegetation, comprehended under the three heads, viz:

1. The Proportion of Ammonia in the Atmosphere.
2. The Assimilation of the Nitrogen of the Atmosphere by Plants.
3. Functions of the Ammonia entering the Atmosphere.

This work was made the subject of a favorable report to the Academy of Sciences, by M. Chevreuse, at the Session of 5th November, 1855.

1857.—Experimental Studies on Vegetation, comprising:

1. A New Method of Applying Nitrates.
2. The Assimilation of Nitrates by Plants.
3. Comparative Effects of Nitrates and Salts of Ammonia.
4. The Decomposition of Nitrogenous Materials, and their Effect on Vegetation.

M. Pelouze reported favorably upon this work to the Academy of Sciences, at the Session of 14th April, 1856.

1864.—Lectures on Agriculture, delivered at the Experimental Farm at Vincennes. (600 pp.)

1867.—Chemical Manures—An Explanation of M. Ville's System. (400 pp.)

1868.—Chemical Manures—Their Rational Application in the Cultivation of the Principal Crops. (400 pp.)

Report on the Results Obtained by the use of Chemical Manures. (200 pp.)

1875.—Chemical Manures. The Dung Heap and Live Stock. (400 pp.)

M. Ville, as a member of the Academy of Sciences, presented the following papers to that body:

1847.—Session of 7th June. Physiology:—On the Modification of the Respiration of Persons who have Inhaled Ether. [In the preparation of this paper M. Blandin was associated with M. Ville.]

1850.—Session of 21st October. Vegetable Physiology:—A Memorandum on the Assimilation of the Nitrogen of the Atmosphere by Plants, and the Influence Exercised by Ammonia on Vegetation.

1852.—Session of 4th October. Experimental Researches on Vegetation—Inquiry into and Determination of the Nitrogen of the Atmosphere.

Idem.—Session of 2d November. Experimental Researches on Vegetation (3d part)—Influence of the Ammonia of the Atmosphere on the Development of Plants.

1854.—Session of 10th April. Absorption of the Nitrogen of the Atmosphere by Plants (1st part).

Idem.—Session of 17th April. Absorption of the Nitrogen of the Atmosphere by Plants (2d part).

1855.—Session of 26th November. Note on a New Method of Determining the Nitrogen in Nitrates, the Result of Sundry Experiments, and proving that the Nitrate of Potassa is Decomposed by Plants, and that Nitrogen, in equal quantities, is more active in Nitrate of Potassa than in Ammonia Salts.

1856.—Session of 14th July. On the Part Played by the Nitrates in the Economy of Plants.

Idem.—Session of 21st July. On the Condition in which Nitrogen is found when Absorbed by Plants from the Atmosphere.

Idem.—Session of 22d September. On the Part Played by the Nitrates in the Economy of Plants.

1857.—Session of 14th December. Remarks on the Occasion of a recent Communication Concerning the Influence Exercised by Phosphate of Lime in Manure on the Production of Vegetable Matter.

1858.—Session of 13th September. Fresh Researches on the Part Played by the Organic Principles in the Economy of Vegetable Nutrition.

1859.—Session of 21st March. On the Constitution and Properties of Humus (*la terre végétale*)

1860.—Session of 13th August. On the Comparative Importance of the Agents which Contribute to Vegetable Production. The Function of Potassa.

Idem.—Session of 17th September. On Soda used as a Substitute for Potassa.

Idem.—Session of 3d December. Comparative Action of Nitrates and Ammonia Salts.

1861.—Session of 11th November. On Phosphoric Compounds, active and inactive.

1862. Session of 7th July. If Urea has a Favorable Action on Vegetation, why should Éthylurée show itself to be so Inactive?

1863.—Session of 3d August. Remarks on the Occasion of the last Memoir of M. Raulin on the Vegetation of the *Mucédinées*.

Idem.—Session of 31st August. The Molecular Structure of Vegetation Explained. Efforts to Ascertain the Qualities of Humus through Experiments in the Field.

1865.—On the Presence of Sulphate of Ammonia in the *Lagoné de la Coscane*.

1872.—On the Rapid Combination of Phosphoric Gas with Magnesia and Lime.

In M. VILLE's letter to us occurs the following :

"I am greatly flattered to know that my name is held in esteem by the agricultural community of Virginia. I have not been unmindful of the contents of your excellent journal; and I observe with pleasure, the dawning of a new and vigorous life in the conduct of your farming operations.

"That I may perchance add to the interest of the *Planter*, I send you two articles on the nutrition of live stock. These articles are extracted from the second volume of my lectures of 1875, but I have revised them for you; indeed, in many particulars, remodelled them."

This is no small honor. These articles will be cast into English by Colonel RANDOLPH HARRISON, of Cumberland (to whose considerate kindness we are indebted in more ways than one); and will appear, in due time, in our pages.

"BUT what avail her unexhausted stores,
Her bloomy mountains, and her sunny shores,
With all the gifts that heaven and earth impart,
The smiles of nature, and the charms of art,
While proud oppression in her valleys reigns,
And tyranny usurps her happy plains?"—ADDISON.

THE person called the President of the United States has published his Message (his "last dying words," as they used to say at Tyburn); but it is too puerile for comment. We once thought he was a *man*, albeit a very bad one. We find now we were deceived; he begs like a dog.

THE AGRICULTURAL AND MECHANICAL COLLEGE.

We have heretofore spoken of the admirable Faculty with which this College is blest. They are all true men, and the following report will show how well they are doing their work. We know of nothing that will be read with more pleasure and interest, by our people, than this report. It bears on its face the excellent lesson our boys are learning under the new order of things brought about by the war :

This report to the General Assembly of the condition of the Virginia Agricultural and Mechanical College during the fourth collegiate year, beginning August 14th, 1875, and ending August 10th, 1876, is submitted in accordance with Section 14, Chapter 234, of the Acts of the General Assembly of Virginia of the Session of 1871-'2.

The organization and management continue as set forth in the previous reports, which furnish a consecutive history of the work.

The whole resources of the College are devoted to meeting the wants of those for whose benefit it was organized, the course of instruction being strictly confined to what is believed to fit men best for success as farmers and mechanics, Greek not being taught at all, and Latin not required. Daily instruction is given in practical agriculture and mechanics to details of students working on the farm or in the shops. Very valuable additions have been made to the stock on the farm. The shop has been enlarged, and furnished with additional machinery and tools, and a grist mill has been built adjoining it, driven by its engine. The school of drawing, including free-hand drawing, has been developed to great efficiency. Among the jobs done by the students have been the building of a brick kitchen of the mill and of the addition to the shop, the moving of two houses, and the remodeling of three into messing and lodging houses : all the work being done by students except the mason work. A line of telegraph, connecting the College with the Western Union Telegraph line, was set up by students, and the office is conducted by students, and the office furnishes a school of telegraphy.

The messing system continues to work well, supplying exceedingly cheap board to about one hundred students, and keeping down the cost of board for the rest, which can be had with lodgings as low as \$10 a month, and is never above \$15. Students who have college rooms, for which no rent is charged, and live in messes, can, by the paid work done outside of their regular details, meet a large part of their necessary expenses. A few meet all, usually those who have already some skill in trades, and the number of such is increasing.

The military instruction, which is required by the conditions of the Federal Land Grant, is, as heretofore, conducted with great efficiency: an evidence of which was given by about one hundred of the students as a military organization, in charge of student officers, to the State Fair, where they acquitted themselves with great credit.

The number of students for this the fourth session being two hundred and fifty-five, proves that the attempt to meet the wants of the people has not been unsuccessful. Many applications for appointment had to be refused ; and those admitted taxes heavily the resources to provide for them. No further increase in the number of students can be allowed, and the number will probably have to be reduced, until the resources of the College can be increased.

A hospital has been provided, and a physician appointed to furnish attendance and medicine to sick students, the expenses being met by an assessment of five dollars apiece per annum on the students.

Three of the new buildings are in use, and the fourth will be ready for the opening of the next half session. The work is pronounced by competent judges to have been done with most extraordinary cheapness and efficiency.

At the commencement exercises in August diplomas were delivered to the second class of graduates that the College has turned out, twenty-seven in number, of whom twenty two were graduates in Agriculture, and five in both Agriculture and Mechanics. The salary of each of the seven professors is \$2,000, the President receiving \$500 additional.

G. C. WHARTON, <i>Rector.</i>	} <i>Executive Committee for Board of Visitors.</i>
E. C. BURES.	
R. C. KENT.	
C. L. C. MINOR, <i>President.</i>	

RUINED BY COTTON—HOW?

We hear this expression every day. "The South has been ruined by cotton." Too much has been raised, say our political economists, and the price has declined below the cost of production.

This may be partially true, but why the cotton crop should be the only over-cultivated one is a point we cannot clearly discover. If any crop is made an exclusive one over a large area of territory, the same result is sure to follow. Corn, even, may become a drug in the markets of the world, not because there will be too much of it, but because its price is above the reach of the consumer. It is but a few years since that we read of corn being used as a fuel by our Western brothers. The price per bushel, which the producer could obtain, was only ten cents, and less than its actual cost to him. Yet we, in Louisiana, were then paying from sixty to seventy-five cents per bushel, and would have gladly used five times the amount we actually consumed had we been able to obtain it for forty or fifty cents per bushel.

Any crop which is made a specialty becomes relatively expensive. The farmer who makes one hundred bales of cotton and no other crop, cannot make both ends meet unless he can get ten or twelve cents per pound for it. But the farmer who diversifies his crops may have ten bales to sell, which will pay a profit at five cents.

There is no danger, in our humble opinion, of raising too much of any merchantable product, if we raise it cheap enough. Cheapness increases consumption. A poor man can buy but a few yards of sheeting at ten cents and upwards per yard, but the probabilities are that he will purchase more than twice the amount at half the price. The same rule will apply to everything produced or manufactured.

Our farmers should not endeavor to enhance the price of any crop by reducing the area cultivated. "Never bite off your own nose to spite your face." We have known flour to be sold for three dollars per barrel, corn meal for a dollar and a half, rice for two cents per pound, and potatoes for a dime per bushel; and everybody was contented, prosperous and happy. It can be done again if we only will it. If we cannot increase the price, let us not limit its production, but reduce its cost.

The matter of transportation, and the feasibility of home manufacture may appropriately be considered in this connection. Anything which lessens cost to the consumer benefits the producer. If corn can be brought from our Western prairies to the Gulf for bed-rock rates; if our cotton can be manufactured, at low prices, in close proximity to the field where grown; if the labor of the habitual idler and the chronic seeker for "something to turn up," can be utilized, our farmers need fear no stagnation of markets or excess of production.

We copy this from the *Son of the Soil*, printed in New Orleans, and a good paper it is. The position taken by the editor is exactly right. Col. BEVERLEY, in the December *Planter*, developed the same idea in the direction of Virginia agriculture. The cheaper a thing can be sold at, if in the rank of articles of necessity, the greater will be the consumption of it. We have examined the figures of a plantation in South Carolina, for the year 1856, and the cotton it produced, sold at 6 cents (gross) a pound in Charleston, yielded a net profit of nearly fourteen per cent. on the money invested in its production. It is conceded, on all hands, that the cotton crop, now being marketed, is more nearly the property of the planter than that of any year since the war. This means that he is sustaining himself, and *this* means that he is raising his own pork, and corn, and long forage. We have good hopes that such management will become universal; and it will as soon as every State in the South is rid of the carpet-bag curse. Once this pest is out of the way, and the negro, now his own man, will understand that he can't afford to be a thief. Any man then will be able to raise hogs, and go to his bed as a decent man should, feeling assured that the property he had at night will be under his control in the morning. With such unparalleled

scoundrels as have afflicted the South for so long, the wonder is that we have anything at all. Our troubles will not continue forever; interest will at last overcome fanaticism in the North, and when it does, both whites and blacks in the South will be left to work out their own salvation in their own way; that is, provided the country lasts as a Republic.

FAILURE IN FARMING—WHY?

A correspondent of the *American Farmer* points out some of the causes of failure in farming as follows:

I know that the farmers are always looking with something like envy at the commercial classes; but my experience is (and I have tried both) that if most any of our farmers should go into trade, and not use more economy, forethought and diligence in business than they do in farming, they would be ruined—almost before they began. To begin: how few of our farmers keep anything like a strict ledger account, so as to know what they are doing, and if they are really losing or making money by farming. This simple fact that at the end of the year they are no better off than at the beginning, may not show that farming as a business is unproductive, but that they have not used the proper appliances to make it so. Too much is expected by a great many farmers. A farm that would not bring over \$5,000 or \$6,000 is expected to support a family, pay taxes and wages, increase in value, and have something to its credit at the end of the year. The interest of that sum would only pay the rent of a moderate house, or buy only a fair one with the lot it stands upon. My experience has been that the greater part of the failures in farming comes from neglecting the small matters, or in carrying out the details. What would be thought of a merchant who would allow another in the same business to introduce a novelty that was attractive and remunerative, and did not immediately procure the same? Yet we see the same thing among farmers every day. One has a breed of hogs, judiciously selected, that can be made to weigh (spring pigs) 200 or 250 pounds at ten months old; but nine-tenths of his neighbors are content if they winter their fall pigs and make them that weight at eighteen months. One raises pork at five cents per pound, and the others anywhere from ten to fifteen cents—if much corn is fed to winter. Another, by good crosses, has got his cows to give a rich milk, and has abundance of good butter to sell all the time, but most of the neighborhood stick to the old-fashioned half fed fence-jumpers, who go dry in October, and keep so until they calve in May, and give milk when butter is comparatively cheap. Again, in the comparatively unimportant article of poultry, the careful selection of kinds and feed make all the difference.

I remember calling on a friend last winter, and seeing him feeding his hens quite freely with corn; I asked him if it paid. He told me that he kept an exact account of his hens and that they were paying him considerably over a dollar a bushel for his corn, besides the manure. His hens were averaging him over 20 eggs to the hen in February, and mine not 5—and the difference was in the breed and feed.

Does this farmer relate facts? If so, it is absurd to call on HERCULES to get us out of trouble. He wants the man to put first his own shoulder to the wheel; and it is astonishing how much that man can do when *he tries his best*. Mr. WASH, of Louisa, is a sample. The war took off one of his arms, and yet diligent attention to his business gives him the check of his commission merchant every year for \$5,000, as the proceeds of his tobacco crop. We have never heard him once say that farming did not pay. He seeks no credit, for that means interest; he asks indeed no odds of anybody. Why should he be an exception? A new year has just begun; we trust it will be the beginning of better management all round.

THOSE WISE MEN AGAIN.—We do hope that these troublous times will not prevent our friends from remembering what they can do in the direction of the *Planter*. If a man's soul is ever unlocked during the year, it is in the month of December. So, let not the opportunity presented by this month go by without a

large club of subscribers for us being formed in every county. We do not want to play DIVES (there is too much broom-sedge yet in the Southern country to authorize expectations as exalted as that); neither do we fancy LAZARUS (except to read about him); what we do want is enough to keep things going, which embraces the boiling of the pot, and the giving, every month, of a thick number of the *Planter* to our friends. If the journal hasn't life enough in it, it is your fault and not ours; for how can one be spry when he suffers with "the poor man's gout?" Then *be up and doing*; and while you may not see, as the result, a bulk as portly as that of SANTA CLATS, you will, at least, see a face as smiling, and a heart as contented.

THE MESSAGE OF THE GOVERNOR.

Every Virginian has, of course, read the Governor's Message. We know their feeling by our own, and that is, we thank God, in these times of trouble, that we are as well off as we are, and in nothing more than the privilege of having a MAN in the Governor's chair.

He had much to say, but every word was needed. Our affairs might be a good deal more prosperous than they are. Hard times have not been strangers to our doors, still few who have been willing to strive but have been rewarded with at least shelter, food and raiment; and while these are vouchsafed us we are far from forlorn.

What he said was wisely said and honorably said. The history of this Commonwealth is too full of glory for us to do anything to dim that glory. It is the heritage of our children, and more precious than gold. Then let us give heed to his counsels, and working together with cheerful hearts, *conquer* relief from our troubles.

God save the Commonwealth!

If, by villainy (not law, of course,) our hopes should be blasted, then

"O nation miserable!

With an untitled tyrant bloody-sceptred;

When shalt thou see thy wholesome days again?"

THE DESTRUCTIVES.

For a year past, we have, from time to time, ventured opinions in connection with the power constituting the Executive of the general government. It was our hope that the issue *might* show our apprehensions to be unfounded. So far from this, the Government has filled the measure of violence to running over, and the people of the United States stand to-day in the presence of the most fearful fact that can concern a free people, namely: A DICTATORSHIP.

The President's habits are so notoriously bad, that it is altogether doubtful whether he has drawn a sober breath in twelve months. With such an irresponsible creature to use, the faction of destructives deem their work to be an easy one, *and it will be* if the people of the North and West do not rise in their majesty to prevent it.

We, in the South, did all the work we were capable of doing, in casting our votes for the man who promised relief to the Country. Beyond that we can do nothing; for it is absurd to urge a claim that you cannot enforce. When troops were sent to Petersburg to carry the election for the destructives, all Governor KEMPER could do was to make his protest in the name of the State; he was pow-

erless to resist with force this act of usurpation. We elected, for the Democrats of the North, the candidate of their choice; now let them see to it that he is not cheated out of his rights. If they submit, the last Presidential election has been held in this Country, and *ULYSSES I.* (under the Triumvirate) *becomes our master.* Poor *HAYES* may be the puppet set up.

FOX-HUNTING IN ENGLAND.—The statistics as to the number of packs throughout the United Kingdom are, perhaps, the best answer to those who maintain that hunting is on the decline. It must be remembered that the 342 packs, some of which hunt five and none less than two days a week, consist altogether, and taking into account some seven or eight packs which have not sent in a complete return, of about ten thousand couples of hounds. There are 6,826½ couples of foxhounds: 5,842½ couples in England, 689½ in Ireland, and 294½ in Scotland. There are 2,266 couples of harriers: 1,416 couples in England, 821 in Ireland, and 29 in Scotland. There are 371½ couples of staghounds: 279 couples in England and 99½ in Ireland; and 296½ couples of beagles. To say nothing of the huntsmen and whips, of whom there are about a thousand—being upon an average of nearly three to each pack—it may be sufficient to state broadly that the 342 packs—taking the annual cost of each at £1,000, which is certainly not an extravagant estimate—entail an annual expenditure of say £350,000 (\$1,750,000), affording sport to some 50,000 people who hunt regularly.

The "old boys" will enjoy the above, and we insert it for their sakes. In the hard times they have seen so continuously since the war, the dear old fellows, ROGERS-like, deal only in the "Pleasures of Memory." The deep-mouthed music, that made the woods ring, still lingers in their ears, and they wonder if the good old times will ever come again. They never will. We may prosper again, and undoubtedly will, but that prosperity will have little in it of the poetry of the past. Care has been, and will be hereafter, too much our guest for that.

THE CRUEL INDIAN.—"The Choctaw and Chickasaw Indians will not allow negro children to attend their schools."

What will Plymouth Rock do about these vile Indians? If an Indian could blush, he undoubtedly would (with shame) when he heard that at the "Church of Brother HOWARD," in Washington, both whites and blacks occupy the same pew. But the Choctaws and Chickasaws are not Puritans. For their sakes, (we mean the Indians) we are thankful that they are not. It would add to their hypocrisy amazingly, and an Indian is bad enough take him as we find him.

PLYMOUTH ROCK.—MR. BOUTWELL says Massachusetts is ready to fight, if necessary, to instal HAYES. We have only to say that if she does no better than she did in the last war, not a sea, at least, of her blood will be spilt. We know how she burdened her towns with debt to pay bounty money, and how LINCOLN complained that, while other States were putting in the war white-faced, and therefore reliable soldiers, Massachusetts was scouring the Southern plantations, within the Federal lines, to secure negroes to fill up her quota.

She has ever been good on the "windy work" of war.

THE GREAT SORROW IN BROOKLYN.—The remembrance of a similar disaster in our own midst only deepens our regret at the fearful calamity that has visited Brooklyn. The feeling of section fails to stand against the cry of humanity in agony. We have nothing but the most sincere sympathy for the friends of the sufferers, and know that our people will not be backward in making such substantial response to the call for relief as their means will permit.

STATE MATTERS.—An old planter, and a most esteemed friend, in King George county, writes us as follows :

Enclosed you will receive \$2 for my subscription to the *Planter and Farmer* for the ensuing year. (1877). I am pleased to see from your last number, that we are to be favored with something more from the pen of CIVIS. If at all equal to those published in the *Planter and Farmer* on the subject of Free Schools, they cannot but add to the interest of your valuable journal. It is refreshing, in these degenerate days, to find one who not only has the moral courage, but the signal ability, to expose the iniquity of the present system. All honor, say I, to CIVIS and Professor DABNEY; and shame upon the craven spirits who feel the truth of their unanswered and unanswerable arguments, but have not the manliness to avow it.

I am glad to see from the Governor's message that he speaks hopefully of our State finances. I hope he may be right; for all honest men subscribe to the declaration that our public debt ought and must be paid. I can see no difficulty in doing so, if we can, by any means, divest ourselves of the tax incumbrances hanging upon us—I mean the present system of county taxation, and our glorious Legislative masters. What think you of taxes in an adjacent county, on land alone, being some thirty odd dollars more than my State tax on the same? There ought certainly to be some restriction on these county functionaries. But Sambo and Sambo's dog must be propitiated.

I think I can see that the Legislature will be in no hurry to carry into effect the adopted amendments. But if delinquent in other matters, they are certainly entitled to the praise of being a most courteous body in disposing of leaves of absence to one another, even though it be at the expense of others. Accept my best wishes for the continued success of your journal.

Such is the uniform tenor of our correspondence with the real, tax-paying people of the State. We are glad to see the recommendation of the Governor in favor of so amending the Constitution as to *relieve property* of taxation for the support of public schools. If the system, as indefensible in morals as it is in policy, is to be fastened upon us, let us take its poisonous fangs out of the property of our people. Relying solely upon the poll-tax for support, it will be vastly weakened in its power for mischief. The adoption of the constitutional amendments begins a most beneficent revolution. The pre-payment of the capitation-tax, as requisite to the increase of the elective franchise, is really a property qualification. The principle of property qualification for suffrage is now engrafted upon our Constitution. This is a great point gained. We hope yet to see the day when the substance of our people will not be used up in supporting thieves and paupers, idlers and vagabonds.

THE TOBACCO STATISTICS PREPARED BY THE PLANTER'S WAREHOUSE—Deeming the little paper arranged by the Planter's Warehouse, of this city, showing the pounds of the crop of tobacco marketed in Virginia, of peculiar value, we sent a copy to the best posted tobacco dealer in Great Britain. We are in receipt of his acknowledgment; in which occurs the following :

"The little document you sent us was *highly interesting*, and we made use of it in our last issue. In the disputes about the extent of your crops, such statistics are most important, especially in this country, where our manufacturers are mostly shop-keepers, who say that reports of short crops are mere inventions, while they fully believe the reverse side of the question."

Our readers will certainly acquit us of any negligence in keeping before their eyes the *absolute necessity* of having in Virginia some public officer whose business would be not only to arrange a complete collection, showing our resources, but, also, put in shape the statistics of the crops on which our people depend for their income. Buyers are not willing to venture too far on an uncertainty, and where this uncertainty exists, the producer of the raw product is bound to pay

for what it involves. The saving to the State at large, resulting from definite data in this line, would pay the officer's salary many times over. The Legislature will have no trouble in creating such an officer, who would, from the start, be able to give the most work for the least money; for, we are informed by a friend, that that body has been provided with the fullest information on the subject from no less than five States where such an office is in highly successful operation. We had hoped that the State Agricultural Society would be able to so arrange its organization as to combine this work with the regular labor necessary to give it efficiency.

IMPORTANT IN CONNECTION WITH "FANCY BRIGHT" TOBACCO.—A friend of ours has promised us, for our March number, a full and detailed examination of "Fancy Bright" tobacco, (grown in Granville County, N. C.) made by the eminent Dr. VOELCKER, of London. It will prove of the greatest interest to our friends growing that type of tobacco, and gratify them not a little to know that they have a product not surpassed, in excellence, anywhere throughout the world.

RECEIPE FOR CHICKEN CHOLERA.—I have found that the soot of wood-fires is a perfect cure for cholera amongst fowl. Give it to them in the morning fastings, by making a dough of corn meal, quite grey with the soot. Eight or ten feeds is generally enough to stop the disease. I shut up those actually sick, and give nothing else. It also stimulates the fowl into better health, being a good tonic. I spent a small fortune on carbolic acid and other things.

COMMON SENSE IN THE HOUSEHOLD—*A Manual of Practical Housewifery, by Marion Harland.*—This book is just what it purports to be, and is full of wholesome advice and useful, tried receipes. The spicy *talks* which are interspersed, make it intensely entertaining as well as useful. What better New Year's present can you give your wife or daughter than this valuable book. Send to *Scribner, Armstrong & Co.*, New York.

PATRICK HENRY.

For several months past, we have deemed it our duty to bring to the remembrance of our friends the judgment of men, noted for statesmanship, in this country and out of it, in connection with the perils which beset the system of government under which we live. We now present the remarks of PATRICK HENRY, uttered in the Virginia Convention, on the adoption of the Constitution of 1788. What has lately occurred, and is now occurring, in this country, is certainly not at variance with what he had then to urge:

"Your President may easily become King. Your Senate is so imperfectly constructed that your dearest rights may be sacrificed by what may be a small majority; and a very small minority may continue forever unchangeably this government, although horribly defective. Where are your checks in this government? Your strongholds will be in the hands of your enemies. It is on the supposition that your American Governors shall be honest that all the good qualities of this government are founded; but its perfect and imperfect construction puts it in their power to perpetuate the worst of mischiefs should they be bad men. And, sir, would not all the world blame our distracted folly in resting our rights upon the contingency of our rulers being good or bad? Show me the age and country where the rights and liberties of the people were placed on the chance of their rulers being good men without a consequent loss of liberty. I say that the loss of that dearest privilege has ever followed, with absolute certainty, every such mad attempt. If your American chief be a man of ambition and abilities, how easy will it be for him to render himself absolute? The army is in his hands; and if he be a man of address it will be attached to him, and it will be the subject of long meditation with him to seize the first auspicious mo-

ment to accomplish his design. And, sir, will the American spirit solely relieve you when this happens? I would rather have a King, Lords, and Commons, than a government so replete with such insupportable evils. If we make a King, we may prescribe the rules by which he shall rule his people; but the President in the field, at the head of his army, can prescribe the terms on which he shall reign master so far that it will puzzle any American even to get his neck from under the galling yoke!"

"MANY of the greatest tyrants on the records of history have begun their reigns in the fairest manner. But the truth is, this unnatural power corrupts both the heart and the understanding. And to prevent the least hope of amendment, a king is ever surrounded by a crowd of infamous flatterers, who find their account in keeping him from the least light of reason, till all ideas of rectitude and justice are utterly erased from his mind."—BURKE.

THOSE APPLES.—Our esteemed friend, Col. MASSIE, of Nelson, complains as follows of our proof reader :

TO THE EDITOR: Everybody knows the two readings given Shakspeare's manor or manner born; and that it is often used either way by him that quotes. But nobody ever couples apples and manners except you or I. So please mention that, in my article in the December number of the *Planter* about Pippins, I did say to the manor born, and not manner; also, that I think it very doubtful if I ever wrote Newton for Newtown.

THOS. J. MASSIE.

THANKSGIVING.—When the man who represented the idea of opposition to tyranny, Mr. TILDEN, is safely seated, we hope a general thanksgiving will be proclaimed. The relief from the long agony we have suffered will soften the heart of every man, and make him grateful to Almighty God for our signal deliverance. It was not party that was involved in this contest, but *personal liberty itself*.

THE PRICE OF GRAIN.—Russia and Turkey are pushing forward their preparations for war with the utmost vigor. It will be the Crusades over again; the Christian against the Infidel. A Greek priest will head the Russians; and a Mahomedan priest the Turks. In such wars there is no quarter, and the Turk, if unaided by other people, is bound to succumb, thus ridding Christendom of a most foul ulcer.

In the meantime, the Danube and the Black Sea are closed to the outside world for grain; and as they formed the chief competitors of the United States, in this way, the United States will now be the sole resort. Grain, therefore, will advance with us; and not a few farmers, we suspect, will be sorry that they did not put in a larger area. We know to what a point grain went during the Crimean war.

[COMMUNICATED.]

THE PERUVIAN GUANO SUPPLY—PRESENT AND FUTURE.

There seems to be an idea, prevalent in some agricultural communities, that genuine Peruvian Guano can no longer be purchased in this country. This mistake probably had its origin in the fact, that certain deposits, from which it had been most extensively obtained, had given out, and, as the familiar names—Chincha and Guañape—were heard no more, as importations from those islands ceased two years ago, the notion gained ground that no more Guano existed in

Peru, and that all so-called "Peruvian Guanos" were frauds upon the market. The fact was overlooked that Peru possesses other large deposits of this valuable fertilizer, besides those above mentioned islands, and, moreover, we are informed from reliable sources, that so large was the stock imported into the United States three years ago, that no inconsiderable quantity of "Guañape" Guano may still be found in the hands of the Peruvian Government agents in New York. Large cargoes are also constantly arriving from other deposits mentioned above, and are, in every respect, equal in value to the Guañape brand, and, therefore, Peruvian Guano can still be purchased, as pure as ever, from all reliable and trustworthy dealers in fertilizers.

As a matter of public interest, I have taken some pains to inquire into the extent of these new deposits which are to supply the Guano of the future and, although it is difficult to arrive at exact figures, yet it is certain that for years to come, Peru will be able to supply the world's demand; or, in other words, to send us from four to five hundred thousands tons per annum.

The estimated amount of Guano in the deposits, now being worked, viz: Pabellon de Pica, Punta de Lobos, Huanillos, Lobos Islands and minor places on the mainland, is from five to seven millions tons, and, according to the last number of the *Scientific Farmer*, new deposits have been recently discovered in the southern part of the Province of Tarapaca—supposed to contain three millions tons more. Therefore, whatever latitude I allow for error in these estimates, I cannot doubt that our farmers can procure all the Guano they may need, for at least some years to come.

Though the Guano found in the new deposits differs in some respects from the Chincha and Guañape, it is not an inferior article; for though it has less Ammonia, it has more Potash and Phosphates, the latter (Chincha) contained from ten per cent. to seventeen per cent. of Ammonia, while the new cargoes rarely exceed twelve per cent., but many of these new cargoes, in New York, contain forty per cent. to fifty per cent. of Phosphates, against twenty-five per cent. to thirty per cent. in the Chincha.

One point, in regard to all Guanos, should not be overlooked, viz: The Nitrogen exists in a soluble, available form, such as Ammonia, Urea, Uric acid, Guanine, &c., &c., and, also, to a certain extent, as Nitrates. So, also, the Phosphates and Potash are ready for immediate absorption by the soil, and give speedy returns to the husbandman.

Experience had shown that, in general, Chincha Guano was altogether too rich in Ammonia to be used alone, and the practice became general to mix it with bone dust or other material, to moderate its caustic effects. With the new Guano this is unnecessary, *if a suitable grade for the crop to be raised is chosen.*

The variations in the composition of Guano and other fertilizers has led the agents of the Peruvian Government to a praiseworthy and important step, viz: To sell the Guano according to a *guaranteed analysis*, the price being regulated by a *fixed standard*, based upon the real value of the ingredients. A plan vastly more fair and business like than the old method of selling fertilizers at a nominal price per ton, irrespective of their variable intrinsic values. The farmer has no longer any excuse for not knowing what he is buying, and whether the price demanded is a fair one.

W. M. HABIRSHAW, F. C. S.

[COMMUNICATED.]

A TOWN LOT FOR NOTHING.—We would call the attention of our readers to the advertisement of the Ohio, Kentucky and Texas Land Company, and to their very liberal offer. The Company is only carrying on, on a large scale, what is done every day in our large cities—selling alternate lots to induce settlers and increase the value of the remaining lots—with this difference: that this Company *gives away* their alternate lots. Mineral City is a growing town, and will undoubtedly become a large city, when the lots that are now given away will be very valuable. The offer is *bona fide*, and only open for thirty days, as the demand will exceed the supply, and the Company will not dispose of all their lots free. The Company is composed of reliable gentlemen, and our readers can be assured that they will, by complying with their instructions, receive, by return mail, a warranty deed to a town lot, which can be held for further use, or sold, or settled upon, as the owner may please.

THE SUN, NEW YORK, 1877.

The different editions of *The Sun* during the next year will be the same as during the year that has just passed. The daily edition will on week days be a sheet of four pages, and on Sunday a sheet of eight pages, or 56 broad columns; while the weekly edition will be a sheet of eight pages of the same dimensions and character that are already familiar to our friends.

The Sun will continue to be the strenuous advocate of reform and retrenchment, and of the substitution of statesmanship, wisdom, and integrity for hollow pretence, imbecility, and fraud in the administration of public affairs. It will contend for the government of the people by the people and for the people, as opposed to government by frauds in the ballot-box and in the counting of votes, enforced by military violence. It will endeavor to supply its readers—a body now not far from a million of souls—with the most careful, complete, and trustworthy accounts of current events, and will employ for this purpose a numerous and carefully selected staff of reporters and correspondents. Its reports from Washington, especially, will be full, accurate and fearless; and it will doubtless continue to deserve and enjoy the hatred of those who thrive by plundering the Treasury or by usurping what the law does not give them, while it will endeavor to merit the confidence of the public by defending the rights of the people against the encroachments of unjustified power.

The price of the daily *Sun* will be 55 cents a month or \$6.50 a year, post paid, or with the Sunday edition \$7.70 a year.

The *Sunday* edition alone, eight pages, \$1.20 a year, post paid.

The *Weekly Sun*, eight pages of 56 broad columns, will be furnished during 1877 at the rate of \$1 a year, post paid.

The benefit of this large reduction from the previous rate for *The Weekly* can be enjoyed by individual subscribers without the necessity of making up clubs. At the same time, if any of our friends choose to aid in extending our circulation, we shall be grateful to them, and every such person who sends us ten or more subscribers from one place will be entitled to one copy of the paper for himself without charge. At one dollar a year, postage paid, the expenses of paper and printing are barely paid; and, considering the size of the sheet and the quality of its contents, we are confident the people will consider *The Weekly Sun* the cheapest newspaper published in the world, and we trust also one of the very best. Address,

THE SUN, New York City, N. Y.

GREGORY'S SEED CATALOGUE.

Our readers will find the catalogue of J. J. H. Gregory's well-known seed house advertised in our columns. For freshness and reliability of the seed sent out, and enterprise in introducing choice new vegetables to the public, Mr. Gregory is endorsed by the prominent agriculturists of the United States; as recommendations from over forty states and territories, to be found on the cover of his Catalogue, amply attest.

Our readers will welcome the advertisement of the popular Seedsmen, Messrs. D. M. Ferry & Co., of Detroit, Mich. Their Seed Annual for 1877 far surpasses their previous numbers. This firm, one of the largest in the seed business, needs no endorsement from us.

The Detroit Seed Co., Detroit, Mich., have issued their New Floral Guide for 1877, which they are offering free, by mail, to all applicants. If you want a handsome Floral work and reliable seeds write to them.

We call attention of our readers to the advertisements of Messrs. Z. C. Daniel and Thos. J. Lea, who are advertising Essex and Berkshire hogs in *The Planter*. There are no more reliable gentlemen in the country.

A TOWN LOT ABSOLUTELY GIVEN AWAY!

Worth \$100.

WE OFFER FOR
THIRTY DAYS, A
TOWN LOT IN
MINERAL CITY,
GRAYSON COUNTY



TEXAS, FREE
EVERY LOT GIVEN
AWAY UNCON-
DITIONALLY.

NO SETTLEMENT OR IMPROVEMENT REQUIRED.

YOUNG MEN, SECURE A HOME IN THE FINEST PORTION
OF THE UNITED STATES, FOR NOTHING.

FACTS AND STATISTICS.

Grayson county, Texas, is in the finest portion of the State, and is traversed by THREE railroads, and enjoys the advantages of the Red River navigation. Has been settled for THIRTY years. SUMMER THE YEAR ROUND. From the United States statistics of 1870, Grayson county, Texas, produces a variety of production unrivaled in the country. COTTON, TOBACCO, CORN, WHEAT, POTATOES, and all the FRUITS of the SUNNY SOUTH, as well as the growths of hardier climates, making this country truly a paradise.

MINERAL CITY is located on a beautiful plat of high, rolling prairie, interspersed with fine timber, in Grayson county, on Big Mineral creek, an unfailing stream of pure water, and on the Gainsville branch of the Missouri, Kansas & Texas Railroad, twelve miles west of the intersection of the M. K. & T. and Texas Central Railroads. The location is beautiful and healthy, and in all respects desirable, having natural parks, good drainage, and an abundance of pure water at all seasons of the year.

WHY WE GIVE LOTS AWAY.

The Ohio, Kentucky and Texas Land Company have LARGE TRACTS of the best agricultural and mineral land in Northern Texas. And the time seems to be favorable to throw some of our lands on the market, at prices ranging from \$5 to \$10 per acre for unimproved, and \$20 to \$30 for improved lands. We have platted in the midst of our lands the town of MINERAL CITY and to encourage emigration there, we give to any one sending their names to us, a WARRANTY DEED in fee simple for one or more lots in MINERAL CITY, the only charge being the sum of ONE DOLLAR to pay the Notary Public for acknowledging the deed, and actual expenses. WE DO NOT GIVE EVERY LOT AWAY, but every alternate one. We do not expect that every one who takes a lot in Mineral City will go there, but WE DO THINK A GREAT MANY WILL, and they will induce their friends to follow, and it will be but a short time until we have a FLOURISHING CITY. And as we own every other lot it is obvious to all how we are to make money. We make out the deeds UNCONDITIONALLY, not requiring you to settle or improve. Our limit to any one person taking advantage of our liberal offer is five lots.

INSTRUCTIONS.—We will send, by return mail, to any one who will send us, within thirty days from date of this paper, one dollar with their names written plainly in FULL, a clear WARRANTY DEED to a 25X100 FT. town lot in MINERAL CITY, Grayson county, Texas. CLEAR OF ALL TAXES TO JANUARY 1, 1878. Your application for a town lot must in all cases be accompanied by ONE DOLLAR, to pay cost of drawing, and acknowledging deed, and registry fee, and mailing, and postage. Your lot can then be sold or transferred at pleasure. LET ALL IMPROVE THE CHANCE TO SECURE A HOME. Deeds sent to any part of the UNITED STATES AND CANADAS. Address all communications to the

OHIO, KENTUCKY, AND TEXAS LAND COMPANY, 206 Race St., Cincinnati, O.

Remember this offer is good for THIRTY DAYS ONLY.

☞ Parents, Secure a Few Lots for Your Children!

This advertisement will not appear again in the paper.

PURE BRED

SHORTHORN CATTLE,

Cotswold and Southdown Sheep

AND BERKSHIRE PIGS,

For sale at "CLINCHDALE," Bean's Station
Grainger county, Tenn.

jan-ly J. T. & W. S. SHIELDS.

\$12 a day at home. Agents wanted. Outfit and terms free. TRUE & CO., Augusta, Maine.
jan-ly

MAILED FREE FLORAL GUIDE

Contains over 1,200 varieties Vegetable and Flower Seeds. COLORED PLATES. Elegant wood-cuts of vegetables and flowers. Handsomest Guide Published! Send for it.

DETROIT SEED CO., Detroit, Mich.

jan-3t

Peruvian Guano Guaranteed.

By this Brand is designated *Pure* and *Genuine Peruvian Guano*, in which the lumps have been crushed, stones (when found), and all other impurities, removed:—it is, therefore, sold in *purser condition* than when landed from *Peru*.

Put up in bags of 200 pounds each, on which the *guaranteed analysis* is printed, and the *retail price* per ton of 2,000 pounds clearly marked.

The retail price is fixed according to the analysis, at the following rates, which are considerably below those adopted by Inspectors of Fertilizers in this country, or the trade in Europe, thus making the Guaranteed Peruvian Guano the **cheapest Fertilizer in the world.**

For Ammonia	17½c. per pound.
“ Soluble Phosphoric Acid.....	10c. “
“ Reverted “	8c. “
“ Insoluble “	2c. “
“ Potash (as Sulphate).....	7½c. “

NONE GENUINE unless put up as above and bearing the following Trade Mark of the undersigned, Peruvian Government Agents in New York, and **Lead Seals**—on which the Monogram of the Trade Mark is stamped—attached to the extremities of the twine with which the mouth of the bag is sewn, to guard against adulteration.



As a specimen of Analysis and Price of Peruvian Guano Guaranteed, we give those of two cargoes, now on sale, respectively designated **A** and **B**.

CARGO A. PRICE MARKED \$56.

Ammonia.....	6.80	percent.....	\$23 80
Soluble Phosphoric Acid..	3.80	“	7 60
Reverted “	11.50	“	18 40
Total available Phosphoric Acid.....	15.30	“	
Insoluble Phosphoric Acid.....	3.00	“	1 20
Potassa.....	3.70	“	5 55

Estimated Retail Price.....\$56 55

The commercial value of the above Guano is \$79.40 per ton, at the rates lately adopted for valuing fertilizing ingredients, by Hon Thomas P. Janes, Commissioner of Agriculture of Atlanta, Georgia, and State Inspector, Prof. Wm. I. Land, Chemist of the Department of Agriculture, which are as follows:

For Ammonia.....	18½c. per pound.
“ Available Phos. Acid, (Soluble and Reverted).....	15½c. “
“ Insoluble Phosphoric Acid.....	4½c. “
“ Potassa.....	6½c. “

Thus, the commercial value of the above Guano is fully 42 per cent. in excess of the selling price, \$56 per ton.

CARGO B. PRICE MARKED \$70.

Ammonia.....	11.50	per cent.....	\$40 25
Soluble Phosphoric Acid.....	5.40	“	10 80
Reverted “	10.00	“	16 00
Total available Phosphoric Acid.....	15.40	“	
Insoluble Phosphoric Acid.....	1.70	“	68
Potassa.....	2.30	“	3 45

Estimated Retail Price.....\$71 18

According to the rates adopted by the Agricultural Department of Georgia, already referred to, the commercial value of this Guano is \$93.83 per ton, consequently, 34 per cent. above our selling price, \$70 per ton.

We invite Agriculturists to test the value of Commercial Fertilizers by our Standard, and to compare the result with their selling prices.

Liberal Discount Allowed to Dealers.

For further information, Circulars, &c., apply to

HOBSON, HURTADO & CO.,

Dec—6m Agents of the Government of Peru, No. 63, Pine Street, N. Y.

GERMAN POTASH SALTS

(KAINIT)

Calcined, ground and wholly soluble, containing 24 to 30 per cent. **SULPHATE OF POTASH**, being the **Cheapest** source of **POTASH** now available. Also

MURIATE OF POTASH,

80 per cent. and upwards strength.

Orders for future deliveries will receive prompt attention. A supply constantly on hand in stores.

W. G. Price, Jr., Importer,

OFFICE 103, West Lombard Street, between Light and Calvert.

WAREHOUSES.—13 Hollingsworth St., 31 Grant St.

I here annex a few extracts from letters written to me by several leading chemists:

BALTIMORE, June 17, 1876.

W. G. PRICE, Jr., Baltimore, Md.

Dear Sir,—The introduction of the "German Potash Salts," Kainit and Muriate of Potash, has been of the utmost agricultural importance—I have analysis of samples from various cargoes you have imported, shows the article you deal in to be of excellent quality.

Respectfully, etc.,

P. B. WILSON,

Professor of Chemistry in the Washington University School of Medicine.

UNIVERSITY OF GEORGIA, GEORGIA STATE
COLLEGE OF AGRICULTURAL & MECHANICAL ARTS,
ATHENS, GEORGIA, May 27, 1876. }

W. G. PRICE, Jr., Baltimore, Md.

Dear Sir,—I have no hesitation in expressing the opinion that the "German Potash Salts" are of the greatest value to the agriculturists, and that either of themselves, or in connection with other proper substances, they constitute excellent and economical fertilizers.

The discovery of the "Stassfurt Salt Beds" and the application of their Potash Salts in agriculture, ranks in importance with the discovery of the Phosphatic deposits of South Carolina, and the method of rendering Bone Phosphate soluble. I cannot emphatically endorse the use of these "German Potash Salts," by the agricultural community.

Yours truly,

Prof. H. C. WHITE.


BALTIMORE, June 8th, 1876.

W. G. PRICE, Jr.

Dear Sir,—I can fully endorse the use of the "German Potash Salts," as a necessary constituent of all first-class fertilizers, giving life, vigor and growth to the plants, &c., thereby increasing their yield.

Yours truly,

Prof. W. LESLIE ROBINSON,
Analytical and Consulting Chemist.

 Send for Descriptive Pamphlet.

sep., oct., jan., feb., mh., ap—6 times.

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THOMAS J. SPENCER,
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TORACCO, GRAIN AND FLOUR
TOBACCO EXCHANGE,
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REFERENCES.—National Bank of Virginia and
State Bank of Virginia, Richmond, Va.; Daniel
& Tucker, Charlotte C. H., Va.; Rev. John H.
Cawthon, Evergreen, Va.; Booker & Hunt,
Farmville, Va. Ap—ly

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PRODUCE.

Personal attention given to all
sales, and returns made promptly.

GRAIN BAGS furnished at usual
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Unrivalled for the
toilet and the bath
No artificial and
deceptive odors to
cover common and
deleterious ingre-
dients. After years
of scientific experi-
ment the manu-
facturer of B. T.
Babbitt's Best
Soap has perfected

and now offers to the public The Finest Toilet Soap in the World.
Only the purest vegetable oils used in its manufacture.

For Use in the Nursery it has No Equal.
Worth ten times its cost to every mother and family in
Christendom. Sample box containing 3 cakes of 8 ozs. each,
sent free to any address on receipt of 3 cents.

Address B. T. Babbitt, New York City.
For Sale by all Druggists.

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Evergreen Farm, Gwynedd, Pa.,

Importer and Breeder of Improved Blooded Live
Stock, Horses, Cattle, Cotswold and Southdown
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Toulouse, Bremen and Hong Kong Geese, White
China, Wild, Cayuga, Rouen, Aylesbury and
Musk Ducks, Bronze, Blue, Buff and White Tur-
keys, Dorkings, Brahma, Cochins, Guinea and all
other Fowl, Deer, Swans, Peacocks, Pigeons,
Eggs, &c., at low prices. Best Breeds of Dogs
and Maltese Cats, Rabbits, Ferrets, Guinea Pigs,
White Mice &c. Fine Milch Cows always on
hand. Dec

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Columbia, Tennessee,

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Hogs and Black Spanish Fowls, and
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of imported Othello second, and the
great Longfellow, Choice Sallie and
Sambo Pigs. Send stamp to ensure an
answer to inquiries. sep—ly

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FOR SALE.**

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Cattle, bred from best sources, and
from Premium Stock.

Registered Berkshire Swine—Sows
and Boars, as well as Pigs, always on
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Fowls. All for sale at less than North-
ern prices. Address

A. P. ROWE,
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Berkshire Pigs.

The subscriber offers for sale a select
lot of Berkshires of various ages, bred
from stock imported by Hon. M. H.
Cochran of Canada, T. S. Cooper and
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and other well known breeders.

Animals warranted true to descrip-
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nished on application. Orders solicited
and satisfaction guaranteed. Prices to
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PURE BRED LIVE STOCK.

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ers in Fresh and Reliable

FIELD, GARDEN AND FLOWER SEED.

New crop Turnip Seed—other seed for fall
planting. Send for special circular.

SIX PACKETS SEEDS FREE!

For two three-cent stamps.

Ground Bones, Crushed Shells, Condimental
Food, Beef and Pork scraps, &c., for Poultry and
Stock.

AGRICULTURAL IMPLEMENTS, RELIA-
BLE AND VALUABLE FERTILIZERS.

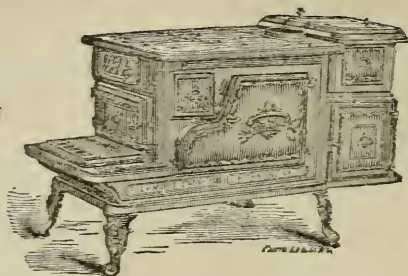
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thing a farmer needs.

BENSON & BURPEE,
Office and Warehouse, 223 Church St.,
Philadelphia, Pa.
mh—ly

\$55 & \$77 a Week to Agents. Samples free.
P. O. VICKERY, Augusta, Me.
sep—ly

THE Richmond Stove Company.

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CORNER MAIN
AND
25th Streets.



SAMPLE ROOM
AND
OFFICE,
Corner of Main
And Fourteenth Streets

COOKING STOVES.

Southern Home with reservoir, &c.
Southern Home with square top.
Dispatch with reservoir, &c.
Dispatch with square top.
Va. Air-Tight with reservoir, &c.
Va. Air-Tight with square top.
Lee with reservoir, &c.
Lee with square top.
Carolina with reservoir, &c.
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The Roanoke double oven range.
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Hot water reservoirs for the Roanoke
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Parlor Cook for dining-rooms.
The Richmond Parlor Cook for coal or
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The Cheerful for coal.
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The Little Queen plain top.
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FRONTS & GRATES, 50 Sizes,

In great variety.

Fenders, Summer Fronts, &c.

Stove Hollow-ware.

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All manufactured at our Works, and
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for any one buying such goods, made
North.

Ask your Dealers for Richmond made Stoves, and buy
no other.

✚ Repairs for our Stoves promptly furnished. ✚

Circulars and Price Lists sent free.

VIRGINIA Agricultural and Mechanical College.

SHORT-HORN CATTLE

—AND—

BERKSHIRE SWINE,

For Sale at the College Farm.

The Swine are bred directly from recent importations, and from the stock of Maj. J. T. Cowan, and A. M. Bowman, Esq. At the head of the Shorthorn herd is the Bates Bull, Raleigh, bred by Maj. Cowan; sire and dam both bred by Abram Renick, of Kentucky, and both of the celebrated Rose of Sharon family. This Bull is believed to be equal in breeding and quality to any in the State. The cows are from the herds of Messrs. William A. Stuart, George W. Palmer, and John T. Cowan, and are animals of good pedigrees and excellent qualities. Stock will be sold at prices and on such terms as will enable farmers to obtain them. Correspondence invited.

Address Col. NORBORNE BERKELEY,

july—tf

Blacksburg, Montgomery County, Va.

WM. STUART SYMINGTON.

THOS. A. SYMINGTON.

PATAPSCO CHEMICAL WORKS.

SYMINGTON BROS. & CO.,

Manufacturers of

OIL VITRIOL

AND OTHER CHEMICALS,

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GAME CHICKENS AND EGGS

Warranted extra fine and healthy Stock. Prices reasonable, and satisfaction given. All carefully packed and delivered to express office. For further information address

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Dec-3t

Cuckoo P. O., Va.

AMERICAN SHORTHORN RECORD.

The Thoroughbred Standard.

Now ready for Pedigrees for Vol. 6th. Each animal, \$1: *no charge for ancestors*. Complete set (5 vols) by express free for \$26. Due notice of closing time given. Send for circular. Address

H. EVANS,

nov—tf

Spring Station, Ky.

AMERICAN HOTEL,

Corner of Main and Twelfth Sts., RICHMOND, VA.

The subscribers having leased the above Hotel for a term of years, offer to the public a first-rate Hotel at low rates to suit the times. The conduct of the Hotel will be under their own immediate supervision, and prompt personal attention will be given to all who may favor them with their patronage.

The American Hotel in the main is new, four-fifths of it being in the Ely block, which is just being finished.


It contains *100 Large and Well Ventilated Bed-Rooms*. Many of them are so arranged as to be used as connecting parlors and bed-rooms to suit visitors. Seventy-seven of the whole number front south and southeast, affording a delightful breeze in Summer and the genial rays of the sun in winter. These rooms are well suited for invalids.

This Hotel has the great advantage of being located on Main street, in the very best portion of the city, and in close proximity to all the following places: Tobacco Exchange, Corn and Flour Exchange, Flouring Mills, Banks, Insurance Companies, Courts, Real Estate Agencies, Post-Office, Custom-House, State Capitol, and all the principal business houses, both wholesale and retail, of every class.

The Ladies' Entrance and Parlors are on Main street. The Business Office is on Twelfth street easy of access, and has attached thereto a *Passenger Elevator*, by which at a moment's notice visitors can be placed on any floor in the building. The Hotel is heated with steam throughout and has all the modern improvements to constitute

A FIRST-CLASS HOTEL!

Our Table shall be of the best, and our long and successful experience in hotel life will assure visitors that nothing will be left undone to make them comfortable, and we solicit the patronage of our friends and the traveling public, as well as city boarders.

 PRICE PER DAY, \$2.

BALLARD & DODSON, Prop'rs.

JOHN P. BALLARD,
Former Proprietor of Exchange Hotel
and Founder of Ballard House.

J. S. DODSON,
Late of the Park Hotel

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GOOD NEWS TO ALL.

THE WHEELER & WILSON SEWING MACHINE

Is as yet unsurpassed. This justly celebrated Machine stands, as it has ever stood, foremost in Sewing Machine ranks. A new triumph has been gained for it in the production of the

No. 8 MACHINE.

This Machine uses a straight needle, and makes a stitch by the silent rotation of a hook, instead of the noisy, vibrating shuttle, as do other straight-needle Machines. This No. 8 Machine possesses all the admirable points claimed by other Machines using a straight needle, and is superior to all of them in ease of operation, rapidity of sewing, noiselessness, simplicity and durability. Any child may operate it. One operator has made as many as 34 pairs of pants in one day on it.

The demand for these Machines now exceeds the supply.

Call and give us an opportunity of proving our statements, or send for circular and price list.

WHEELER & WILSON MANUFACTURING CO.

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ECONOMY and SECURITY COMBINED.

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FERTILIZERS,

CHEAPEST AND BEST?

Every farmer may save fifty per cent. of his money, and obtain a perfectly pure and reliable Fertilizer for any crop, by ordering from us the chemicals necessary for compounding his manures *at home*.

The goods we offer are of our own manufacture, or importation, and will be sold at the lowest prices possible, quality considered, and comprises: Perfectly Pure Ground Bones, Dissolved Bones, Bone Charcoal (Bone Black), Acidulated Phosphate Rock, Pure Ground Land Plaster, Sulphate of Potash (Kainit), Nitrate of Soda, Sulphate of Ammonia, Muriate of Potash, Sulphate of Soda, Oil of Vitriol (full strength), and Sulphate of Magnesia.

Write for Circular and Recipes, which are furnished without charge, containing complete instructions for making, at home, First-Class Chemical Manures, suited to the growth of special crops. Our formulæ have proven, in actual use, to be of the greatest value to all who have used them. Address

HARRISON BROTHERS & CO.,

105 South Front Street, Philadelphia, Pennsylvania,
and 115 Fulton Street, New York,

MANUFACTURERS of FERTILIZING CHEMICALS since 1793.

Dec—4t

H. THEODORE ELLYSON,

(Box 73, Richmond, Virginia),

BREEDER OF

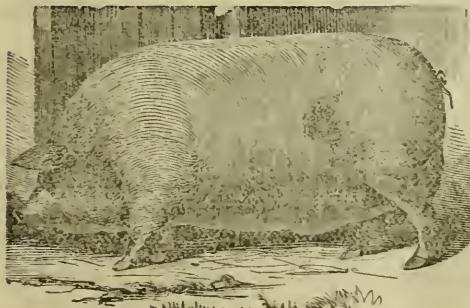
LIGHT BRAHMAS AND PARTRIDGE COCHINS.

GOOD BIRDS FOR SALE NOW AT REASONABLE RATES.

EGGS IN SEASON.

Correspondence and personal examination of stock solicited.

Dec—tf



Premium Chester White, Berkshire and Essex Pigs, bred and for sale by **GEORGE B. HICKMAN.**

Also Fancy Poultry.

West Chester, Chester County, Penn.

Send Stamp for Circulars and Price List. sep—ly

GRANGE'S AMERICAN SUPER-PHOSPHATE.

Manufactured from the most concentrated materials, and superior to any fertilizer in the market for wheat. Ammonia $3\frac{1}{2}$ per cent.; Potash 4 per cent.; Soluble Bone Phosphate 25 per cent.

St. Louis Bone Meal.

Ammonia 3.69 per cent.; Bone Phosphate of Lime 33.148 per cent.

German [Stassfurt] POTASH SALTS, (KAINIT,)

Calcined, Ground and wholly Soluble, containing 24 to 30 per cent. SULPHATE OF POTASH and other valuable ingredients, being the cheapest source of Potash now available; also MURIATE OF POTASH, 80 per cent. and upwards of strength. Orders of Manufacturers promptly executed in deliveries to suit, from the mines or store. Send for Descriptive Circular.

To those who wish to manufacture their own PHOSPHATES we offer a complete line PUREST MATERIALS, and will furnish formula.

F. C. GRANGE & CO.,

SUCCESSORS TO

WILLIAM GRANGE,

Original Introducer and Importer of

STASSFURT POTASH SALTS.

sep—tf

Office, 47 Light Street, Baltimore, Md.

W. A. MYERS,

NEW OXFORD, PA.,

BREEDER OF VERY CHOICE

LIGHT AND DARK BRAHMAS.

WHITE BUFF AND PARTRIDGE COCHINS,

WHITE LEGHORNS, PEKIN AND ROUEN DUCKS,

White Holland and Bronze Turkeys

AND

Berkshire Swine.

EGGS FOR HATCHING.

Brahma, Cochin and Duck Eggs, Per Setting, \$3.00; White Leghorns, \$2.50; Turkey Eggs, \$6.00.

All stock guaranteed satisfactory. Remit by draft or money order on Hanover, Pa. Several fine Boar Pigs for sale now.

may—ly

FALL STYLES, 1874.

CHARLOTTESVILLE WOOLEN MILLS SAMPLE CARDS

Are now ready for mailing. Our assortment embraces
TWENTY-FOUR PATTERNS.

Merchants desiring samples, will please address,

CHARLOTTESVILLE WOOLEN MILLS,
CHARLOTTESVILLE, VA.

PROTECT YOUR BUILDINGS!

Which may be done with one-fourth the usual expense, by using our

PATENT SLATE PAINT,

MIXED READY FOR USE.

FIRE-PROOF, WATER-PROOF, DURABLE, ECONOMICAL & ORNAMENTAL.

A roof may be covered with a very cheap shingle, and by application of this slate be made to last from 20 to 25 years. Old roofs can be patched and coated, looking much better, and lasting longer than new shingles without the slate, for

One-Third the Cost of Re-Shingling.

The expense of slating new shingles is only about the cost of simply laying them. The paint is fire-proof against sparks or flying embers, as may be easily tested by any one.

IT STOPS EVERY LEAK,

and for tin or iron has no equal, as it expands by heat, contracts by cold, and never cracks nor scales. Roofs covered with Tar Sheathing Felt can be made water-tight at a small expense, and preserved for many years. This Slate Paint is

EXTREMELY CHEAP.

Two gallons will cover a hundred square feet of shingle roof, while on tin, iron, felt, matched boards, or any smooth surface, from two quarts to one gallon are required to 100 square feet of surface, and although the Paint has a heavy body, it is easily applied with a brush.

No Tar is used in this Composition,

therefore it neither cracks in Winter, nor runs in Summer.

On decayed shingles it fills up the holes and pores, and gives a new substantial roof that will last for years. CURLED or WARPED shingles it brings to their places, and keeps them there. It fills up all holes in Felt roofs, stops the leaks, and although a slow dryer, rain does not affect it a few hours after applying. As nearly all paints that are black contain TAR, be sure you obtain our GENUINE article, which (for shingle roofs) is

CHOCOLATE COLOR,

when first applied, changing in about a month to a uniform slate color, and is to all intents and purposes SLATE. On

TIN ROOFS

our red color is usually preferred, as one coat is equal to five of any ordinary paint. For

BRICK WALLS

our BRIGHT RED is the only reliable Slate Paint ever introduced that will effectually prevent dampness from penetrating and discoloring the plaster.

These paints are also largely used on out-houses and fences, or as a priming coat on fine buildings.

Our only colors are CHOCOLATE, RED, BRIGHT RED and ORANGE.

NEW YORK CASH PRICE LIST.

Five gallons, can and box, \$5.50; ten gallons, keg, \$9.50; twenty gallons, half barrel, \$16; forty gallons, one barrel, \$30.

We have in stock, of our own manufacture, roofing materials, etc., at the following low prices:

1,000 rolls extra Rubber Roofing at 3 cents per square foot. (Or we will furnish Rubber Roofing, Nails, Caps, and Slate Paint for an entire new roof, at $4\frac{1}{2}$ cents per square foot.

2,000 rolls 2-ply Tarred Roofing Felt, at $1\frac{1}{2}$ cents per square foot.

3,000 rolls 3-ply Tarred Roofing Felt, at $2\frac{1}{2}$ cents per square foot.

200 rolls Tarred Sheathing, at $\frac{1}{2}$ cent per square foot.

5,000 gallons fine Enamel Paint, mixed ready for use, on inside or outside work, \$2 per gallon.

Send for sample card of colors. All orders must be accompanied with the money or satisfactory city references. No goods shipped C. O. D., unless express charges are guaranteed. Sample orders solicited

N. Y. SLATE PAINT COMPANY.

Nov—3t

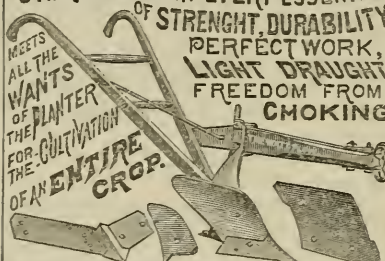
102 and 104 Maiden Lane, New York.

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Largest and most complete Gallery in the South. Has taken the premium for best photographs at every State Fair since the war.

july—1y

THE WATT PLOW.



THE WATT PLOW
UNEQUALLED IN EVERY ESSENTIAL
OF STRENGTH, DURABILITY,
PERFECT WORK,
LIGHT DRAUGHT,
FREEDOM FROM
CHOKING.

MEETS
ALL THE
WANTS
OF PLANTER
THE
FOR CULTIVATION
THE
OF AN ENTIRE
CROP.

WE SOLICIT A TRIAL AND WARRANT EVERY PLOW
SEND FOR CATALOGUE AND PRICE-LIST.
WATT & CALL, SOLE MANUFACTURERS
RICHMOND, VA.

The attention of Planters is respectfully called to these Plows, which we now offer with greater confidence than ever. They have stood every test, and have on every occasion proven their superiority. We especially recommend them at this season

FOR FALLOWING,

For which purpose they are superior in every sense.

Our three and four-horse plows, both right and left hand, have

RECEIVED ALL PREMIUMS AWARDED THEIR
SIZES FOR THREE SUCCESSIVE YEARS
AT THE VIRGINIA STATE FAIR
OVER ALL COMPETITORS.

At the NORTH CAROLINA STATE FAIRS, for three successive years, they have been AWARDED ALL PREMIUMS ON EACH SIZE ENTERED. They have also received first premiums at numerous other Fairs every season, competing with all the Plows sold in this section.

We especially solicit the patronage of Maryland, Virginia, and North Carolina, as knowing their wants, we can furnish a Plow, warranted in every respect to be as represented, and to give satisfaction. We solicit a trial on these claims, and will refund the price of any Plow not doing what we claim. We warrant all sizes. *Any defect in material or workmanship replaced without charge.*

We also have at lowest prices, Corn Shellers, Straw Cutters, Harrows, Cultivators, Coulters and other Implements, all of approved patterns. Plow Castings of all kinds at manufacturers' prices.

WATT & CALL,
1452 Franklin Street, RICHMOND, VA.

july—tf

JAMES M. LAMBING,

(Parker's Landing, Pennsylvania),

Breeder of High-class Pedigree Light Brahmas, Imported Black Hamburgs—Two Varieties Only.

Eggs in season. Chicks and Fowls always on hand. Entire satisfaction guaranteed. Correspondence fully and carefully answered. Write for circular and prices. Send me your address.

Nov—tf

ST. JAMES HOTEL,

RICHMOND, VA.

Pleasantly located on Twelfth Street, facing Bank Street and the Capitol Square. In the centre of the business portion of the city, within one square of the Post Office and Custom House, it is, by its retired location opposite the southeast corner of the beautiful park surrounding the Capitol of Virginia, the most quiet hotel in Richmond.

The proprietor having had a life-long experience in hotel business—first at the Everett House, New York, and afterwards as proprietor of the Spotswood Hotel, Richmond, in its best days—and now assisted by Mr. JOHN P. BALLARD, the popular veteran hotel-keeper of Virginia, assures visitors of the ST. JAMES that no effort on his part will be spared to make them comfortable and to keep the house in first-class style. Coaches will attend the arrival of all trains. Elegant carriages are at all times at the service of the traveling public.

June

T. W. HOENNIGER, Proprietor.

CENTEN-
NIAL.

Commission House of Hull & Scortney, 346 N. Water st., Phila. dealers in Vegetables, Fruit, Produce, Furs, &c. Marking Plates, Tags, Price Lists, etc., on application

LAGER BEER, ALE and PORTER.

ANNOUNCEMENT TO THE TRADE
AND THE
PUBLIC GENERALLY

I have erected, in connection with the James River Brewery, an establishment for the bottling of LAGER BEER, ALE AND PORTER, and am now prepared to fill all orders in quantities to suit customers.

Having adopted the latest and most important improvements in the manufacture of these healthful beverages, (recommended by the medical profession) I can furnish as good an article as can be found anywhere, at the lowest prices.

☞ All GOODS delivered to any part of the city and to all depots, free of charge.

D. G. YUENGLING, JR.,
July-ly Richmond, Va.

HAMBURG EGGS.

SILVER S. GOLDEN S. AND BLACK.
\$2 FOR 13; \$5 FOR 40.

CHAS. SELSER.

may—tf Doylestown, Pa.

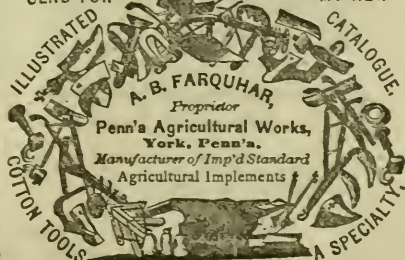
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I am breeding Devon cattle, Merino sheep and Berkshire pigs, of pure blood and choice quality. My cattle are bred from the importations of C. S. Wainwright, and Hon. Ambrose Stevens. They are choice breeders and prize-winners. Have taken in the three seasons past, eight herd prizes and over sixty individual prizes in Iowa, Illinois and New York. My sheep and pigs also are of strictly first quality.

Also White Leghorn Chicks. Prices reasonable and satisfaction given. B. F. PECK, East Bethany, Genesee County, N. Y. jan—ly

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MY NEW



CHESAPEAKE CHEMICAL WORKS.

OIL VITRIOL,

SALT CAKE (Sulph. Soda), NITRATE SODA,
KAINITE (Sulph. Potash), CHLORCALIUM (Mur. Potash).
MANUFACTURERS AND MANIPULATORS OF PHOS-
PHATES ON ORDERS AND FORMULAS FUR-
NISHED BY OUR FRIENDS.

To those who want to manipulate their own Phosphates, we offer
a full line of PURE MATERIALS.

Having completed extensive improvements and additions to our
Works, giving us increased facilities, we are now prepared to execute
orders with greater promptness, and deliver goods in much better
mechanical condition than heretofore.

We offer to the Trade the following Goods, all of which
are absolutely Free from Adulteration:

DISSOLVED GROUND BONE,

Containing 3 per cent. of Ammonia.

DISSOLVED SOUTH AMERICAN BONE ASH,

DISSOLVED SOUTH CAROLINA PHOSPHATE,

SLINGLUFF & CO.

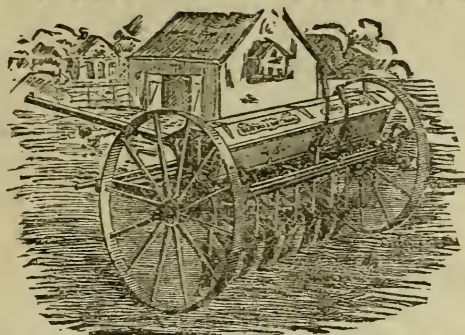
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155 W. FAYETTE ST.

WORKS,
FOOT OF LEADENHALL ST.

BALTIMORE.

march—ly

BICKFORD & HUFFMAN'S



GRAIN DRILL

—AND—
MONARCH OF SEEDING.

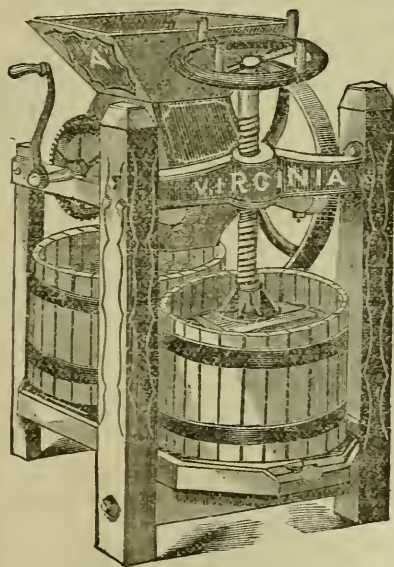
CHAMPION FERTILIZER DISTRIBUTOR.

Perfection attained for the Centennial year. Magnificent sowing accomplished for the Centennial Commissioners. Send for Circulars to

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64 south Sharp street, Baltimore.

aug—tf

THE



VIRGINIA

WINE

AND

CIDER MILL

Is superior to any MILL now made, and more sold annually in this market than of all other kinds combined. It does not grate, but thoroughly crushes every fruit cell, insuring all cider the apples will yield. Send for Catalogue.

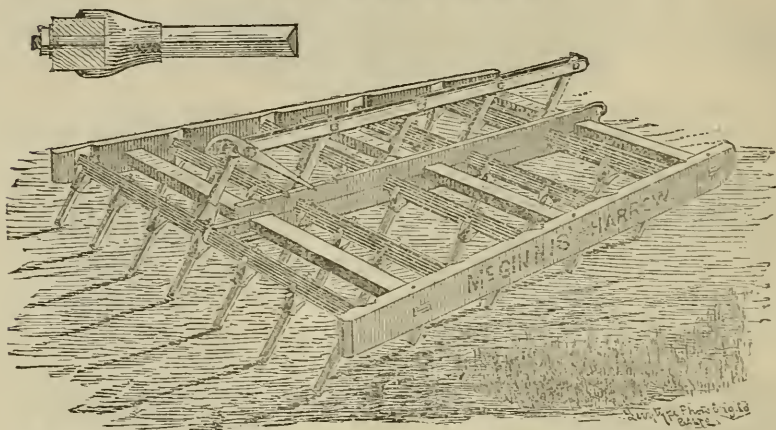
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1526 MainStreet, Richmond, Va.

sep—tf

PAINTING.—THE PATRONS' PAINT COMPANY are manufacturing the *INGERSOLL READY-MIXED PAINTS*, and *BRUSHES*, and selling them at full trade discounts, delivering them freight paid, and no money required until the goods are received—making them cheaper than even the material can be bought elsewhere. They are an absolutely pure article, possessing great endurance and brilliancy, and are giving great satisfaction all over the country. We have a Patron friend who saved enough alone on Paint purchased to pay his Grange expenses for a life-time. They also sell *ROOF PAINT* 30 per cent. cheaper than any one else. It is to the interest of all about painting to write and have sent free their book, "*Every One His Own Painter.*" It will save much money, whether you buy their Paint or not. Address, 259 FRONT STREET, NEW YORK.—(From "*The Farmers' Friend.*")

nov

McGINNIS'



Adjustable & Reversible Tooth Harrow

Patented October 11th, 1875.

Send for Descriptive Circular to

DANNER & NEWMAN,

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Woodstock, Va.

CHAMPION HOG RINGER

Rings & Holder.
Only double Ring
ever invented.

The only Ring
that will effectually
keep HOGS
from rooting. No
sharp points in the
nose.



EAGLE BILL CORN HUSKER

Is the best Husker in the
market. Farmers say it is
the best. Use no other.



BROWN'S HOG & PIG

Ringer & Rings
Only single Ring
in the market that
closes on the outside
of the nose. No sharp
points in the nose to
keep it sore.

The Double Ring can be inserted with CROSS BAR in FRONT of NOSE or on Top. Should dirt accumulate in top of nose insert so that Cross Bar comes in front and not on top of nose.

Ringers, 75c.; Rings, 50c. 100; Holders, 75c.; Huskers. 25c.

CHAMBERS & QUINLAN,

Exclusive Manufacturers, Decatur, Ills.

PLANTER AND FARMER,

TWO DOLLARS PER ANNUM.

DENTISTRY.

Dr. F. DAVISON,

711 Grace Street, between 7th and 8th.

Office hours from 9 A. M. to 5½ P. M. july-ly

Thoroughbred Stock for Sale. DEVON CATTLE and SOUTH DOWN SHEEP.

ESSEX AND POLAND CHINA HOGS A SPECIALTY.

Also, Light Bramah and White faced Black Spanish fowls, &c. All bred from the most fashionable strains of Prize Winning Stock. Selected with great care from the best herds in the United States. Satisfaction guaranteed.

Light Bramah eggs per dozen.....	\$1 50
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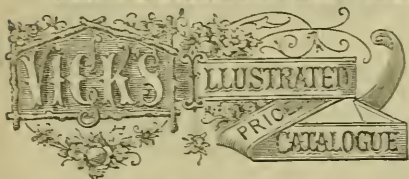
All carefully packed and delivered to Express Office. Address

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For sale by
CAMPBELL BROWN,
Spring Hill, Maury co., Tenn.
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Fifty pages—300 Illustrations, with Descriptions of thousands of the best Flowers and Vegetables in the world, and the way to grow them—all for a Two CENT postage stamp. Printed in German and English.

Vick's Floral Guide, Quarterly, 25 cents a year.

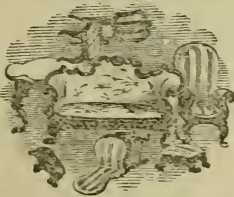
Vick's Flower and Vegetable Garden 50 cents in paper; in elegant cloth covers, \$1.00.

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ARTHUR ROONEY,

Furniture & Mattress Manufact'r,

Wholesale.



Retail.

GOVERNOR AND FRANKLIN STS.,

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B. T. BABBITT'S BABY SOAP



Only the purest vegetable oils used in its manufacture.

No artificial and deceptive odors to cover up common and deteriorating ingredients. UNRIVALLED for the TOILET and the BATH. Used in bathing children,

will prevent eruptions, keep the skin soft and smooth, contribute to health, and prevent disease. Does away with all powders, chalks or other emollients. A certain preventive of Eczema, Itching, &c., in babies, the causes of half the crying and crossness of babyhood. Worth ten times its cost to every mother and family in Christendom; packed in boxes of 12 cakes of 6 cts. each, and sent free to any address on receipt of \$2.50. Address, B. T. Babbitt, N. Y.

For Sale by all Druggists. dec-ly

WALNUT GROVE FARM.

THOROUGHBRED and GRADE JERSEY CATTLE, BERKSHIRE and ESSEX SWINE, and BRONZE TURKEYS.

First Premium awarded me by Va. State Agricultural Society, in 1874 and '75, on Thoroughbred Jerseys, Male and Female, also on Essex Swine, Male and Female, under 1 year old. First Premium awarded on Bronze Turkeys of 1874, and I am breeding from the First Premium birds of 1875.

Prices moderate—Satisfaction Guaranteed.

Address,

G. JULIAN PRATT.

mar-ly Waynesboro. Augusta co., Va.

PURE GROUND BONE

AND AGRICULTURAL CHEMICALS.

H. J. BAKER & BRO.

215 Pearl St., NEW YORK.

Importers and dealers in strictly first quality FERTILIZERS.

Special fertilizers for particular crops.

GEO. B. FORRESTER, Manager of this department. oct

BERKSHIRE BOARS FOR SALE.

TWO BERKSHIRE BOARS—one 12 months, at \$18—the other 8 months old, at \$15. Well bred from Cooper's stock.

TH. POLLARD,

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DAILY AND WEEKLY,

Owned and Edited by

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THE ONLY EVENING PAPER IN RICHMOND.

Daily circulation over 4,000--Growing fast

The WEEKLY, price \$1.00, free of postage, contains the latest news and a full repertory of interesting reading.

Take the WEEKLY STATE - the cheapest for its quality and the best for its price.

Advertisers offered large inducements. dec-ly

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We beg to call the attention of the Farmers and Planters of Virginia and North Carolina to our Stock of well known and reliable

FERTILIZERS FOR THE WHEAT CROP.

SOLUBLE PACIFIC GUANO,

COMPLETE WHEAT MANURE,

FLOUR OF RAW BONE,

SOLUBLE BONE FLOUR.

Prices and terms on application, which cannot fail to prove acceptable.

Special quotations to parties buying in quantities.

Orders and correspondence of Patrons and others solicited.

ALLISON & ADDISON,
RICHMOND, VA.

GRASS SEEDS.

We are now receiving our supplies of pure and fresh **GLOVER AND GRASS SEEDS**, which we offer at lowest prices, viz: Clover, Timothy, Orchard Grass, Herds Grass, Blue Grass, &c., &c.

ALLISON & ADDISON,

132 Main Street, Richmond, Va.

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WATCHES, JEWELRY, SILVER WARE,

BRIDAL GIFTS, SPECTACLES, EYE-GLASSES,
SILVER PLATED WARE,

917 Main Street, Richmond, Virginia.

Special attention given to the repairs of **FINE WATCHES AND JEWELRY**, **HAIR WORK** of every description made to order—such as Chains, Necklaces, Bracelets, Pins, Ear Rings, Charms, &c. ; also, **DEPOT FOR DENTAL GOODS** of every description.

oct—6t

10 ROSES MAILED FREE FOR \$1

Splendid assortment of Plants sent safely by express or mail, any distance. Satisfaction guaranteed. Send 3 cent stamp for catalogue. Address,

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NEW ILLUSTRATED
DESCRIPTIVE
AND PRICED
SEED ANNUAL 1877

Will be mailed to all applicants on receipt of 25 cts. This is one of the largest CATALOGUES published, contains about 250 pages, over 600 fine engravings, two elegant colored plates, and gives full descriptions, prices and directions for planting over 1200 varieties of Vegetable and Flower Seeds, Bedding Plants, Roses, &c., and is invaluable to Farmer, Gardener & Florist. Address,
D. M. FERRY & CO., Detroit, Mich.

Our Abridged Priced Catalogue FREE to all Applicants.

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Z. C. DANIEL,

Breeder of Thoroughbred Stock,

I am breeding thoroughbred Poland China and Essex Hogs, Bronze Turkeys, Light Brahmas, White Leghorns, White-faced Black Spanish and Dark-crested Ducks, all carefully boxed and delivered at depot, with feed for destination. Satisfaction guaranteed.

Bronze Turkey Eggs, \$3 50 setting 12. Light Brahma Eggs, \$2 00 setting 15. White Leghorn Eggs, \$2 00 setting 15. White-faced Black Spanish Eggs, \$2 00 setting 15. Dark-crested Duck Eggs, \$2 00 setting 15.

Eggs for hatching carefully boxed and delivered at Express office. For further particulars address

Z. C. DANIEL,
Twyman's Store Postoffice,
Spotsylvania county, Va.

jan-1y

WANTED—The people to know after twenty-five years of successful experience of his own in Virginia, the undersigned offers his services to the people of Richmond and the neighboring country to SET OUT FRUIT TREES AND VINES and prune those already set out, and restore to health declining orchards by clearing the fruit of worms and making it better in every respect. He can supply and set out apple and peach trees and grape vines on very cheap terms. To the owners of orchards now in his charge in the neighborhood of Richmond, and to others whose orchards he has restored, he has leave to refer.

All work warranted to give satisfaction. Certificates as to qualifications from gentlemen near Richmond.

He will also RECLAIM SHADE TREES.

Orders left at King & Todd's store, corner First and Broad streets, or at Lander Woodson's, on the Basin, near Ninth street, will be promptly attended to.

jan-1t

JOHN L. DOWNER.

ELLERSLIE FARM.—
THOROUGHbred AND HALF BRED

HORSES,

Pure Shorthorn Cattle & Berkshire Pigs

For sale. Address

R. J. HANCOCK,
Overton, Albemarle co., Va.

jan

VICK'S FLORAL GUIDE

A beautiful Quarterly Journal, finely illustrated, and containing an elegant colored *Flower Plate* with the first number. Price only 25c. for the year. The first No. for the year 1877 just issued in German and English.

Vick's Flower and Vegetable Garden in paper, 60c.; with elegant cloth covers, \$1.00.

Vick's Catalogue—300 illustrations, only 2c.

Address
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JAMES VICK,
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\$5 to \$20 per day at home. Samples worth \$5 free. STINSON & CO., Portland, Maine. jan-1y



My annual Catalogue of Vegetable and Flower Seed for 1877 will be ready by January, and sent free to all who apply. Customers of last season need not write for it. I offer one of the largest collections of vegetable seed ever sent out by any seed house in America, a large portion of which were grown on my six seed farms. *Printed directions for cultivation on every package.* All seed sold from my establishment warranted to be both fresh and true to name; so far, that should it prove otherwise I will refill the order gratis. As the original introducer of the Hubbard and Marblehead Squashes, the Marblehead Cabbages, and a score of other new vegetables I invite the patronage of all who are anxious to have their seed fresh, true, and of the very best strain. *New Vegetables a Specialty.*

JAMES J. H. GREGORY,
Marblehead, Mass.

jan-4t

FLOWER CITY SEED COMPANY

We offer the Best (Flower and Vegetable,) for the of any reliable seed Catalogue and a sample packet (Viola Cornuta and Newest Dwarf Aster), free for 10c. **Seeds (Flower and Lowest Price, house in the U.S. Flower City Seed Co., Rochester, N.Y.**

THOROUGHbred STOCK.

I am breeding
DEVON CATTLE, LEICESTER, SOUTHDOWN and MERINO SHEEP, POLAND-CHINA.

BERKSHIRE AND ESSEX PIGS.

My Cattle, Sheep and Hogs took many first premiums at Piedmont, Lynchburg and Richmond Fairs. All bred from the most noted and fashionable strains of Prize Winning stock. Selected with great care from the best herds in the United States. Send for price list. Address

jan-1y

F. W. CHILES,
Tolersville, C. & O. R. R., Va.

\$66 a week in your own town. Terms and \$5 outfit free. H. HALLETT & Co., Portland, Maine. jan-1y

CHESAPEAKE OHIO RAILROAD.

PASSENGER DEPARTMENT.

CONNECTIONS OF PASSENGER TRAINS FROM RICHMOND.

9.00 A. M. Mail, daily except Sunday—daily west of Hinton. Arrives at Gordonsville 12.45 P. M., connecting with Virginia Midland train at 1.10 P. M., arriving at Washington 6 P. M. for all points North. Arrive at Charlottesville 1.35 P. M., connecting with Virginia Midland train at 1.55 P. M., arriving at Lynchburg 5 P. M. for all points South; arrives at Huntington 10 A. M.

3.45 P. M. Accommodation, daily except Sunday, arrives at Gordonsville 7.30 P. M., connecting with Virginia Midland train at 7.40 P. M., arriving at Washington 11.55 P. M. for all points North.

10.45 P. M. Express, daily. Arrives at Gordonsville 2.40 A. M., connecting with Virginia Midland train at 2.50 A. M., arriving at Washington 7.30 A. M. for the North; arrives at Charlottesville 3.35 A. M., connecting with Virginia Midland train at 7.55 A. M., Arriving at Lynchburg 11.07 A. M. for the South. Arrives at Huntington 6.45 P. M., connecting closely with C. & O. Packet Steamers for Cincinnati, Louisville, St. Louis, Chicago and all points in the West, Northwest and Southwest.

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10.30 A. M. Express, daily—arrives at Charlottesville 1.50 A. M., connecting with Virginia Midland train at 7.55 A. M., arriving at Lynchburg 11.07 A. M. for all points South. Arrives at Gordonsville 2.35 A. M., connecting with Virginia Midland train at 2.50 A. M., arriving at Washington 7.30 A. M. for all points North. Arrives at Richmond 6.30 A. M., connecting with Richmond and Danville 7.50 A. M., and Richmond and Petersburg 7.25 A. M. Trains for all points South.

N. B.—The 8.10 A. M. train from Washington arrives at Gordonsville 12.40 P. M., and connects with Chesapeake and Ohio mail trains, both for Richmond and Huntington. The 9.50 P. M. train from Washington arrives at Gordonsville 2.40 A. M., and connects with Chesapeake and Ohio express trains, both for Richmond and Cincinnati.

The 9 A. M. train from Lynchburg arrives at Charlottesville 11.55 A. M., and connects with C. & O. mail train for Huntington, and at Gordonsville 12.40 P. M. with C. & O. mail train for Richmond.

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THE SOUTHERN PLANTER AND FARMER,

DEVOTED TO

Agriculture, Horticulture, and Rural Affairs.

L. R. DICKINSON.....Editor and Proprietor.

RICHMOND, VA.,

FEBRUARY, 1877.

No. 2.

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THE SOUTHERN PLANTER AND FARMER.

This journal enjoys the possession of a corps of contributors not found in connection with any other publication of the kind in this country. It discusses, with freedom, all questions of importance to the Southern country; in fact, it is the exponent not only of Southern agriculture, but of Southern opinion. No effort is spared to make it of absolute value to all of its readers.

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THE SOUTHERN PLANTER & FARMER,

DEVOTED TO
AGRICULTURE, HORTICULTURE AND RURAL AFFAIRS

Agriculture is the nursing mother of the Arts.—XENOPHON.
Tillage and Pasturage are the two breasts of the State.—SULLY.

L. R. DICKINSON, - - - - - EDITOR AND PROPRIETOR

Vol. XXXVIII RICHMOND, VA., FEB., 1877. No. 2

[For the Southern Planter and Farmer.]

ON SOIL EXHAUSTION.

JOHN BENNET LAWES, Esq., F.R.S., Rothamsted, England, has done the *Planter* the great honor of contributing to its pages the following paper. The labors of Mr. LAWES, in connection with the agriculture of his *own* country, have been of such value that, at a general meeting of the farming interest of the United Kingdom, without regard to rank, he was declared, by solemn resolution, to be "a benefactor to his country." We hope, after awhile, to have the pleasure of presenting his picture to our readers, with an account of his career.

In the note to us, accompanying this paper, he observes: "I was rather rash in proposing to send you a paper on the subject of exhaustion. When I began to place my ideas on paper, I found that much must be left unexplained. It appears to be tolerably certain that the cereal crops derive all their carbon from the atmosphere, and not from the soil, and that with a liberal supply of minerals and nitrogen, there is hardly a limit to growth. This rule does not hold good with other plants of a different botanical family; a rotation of crops is, therefore, a process for economizing manure. I may possibly send you some hints upon this subject." We sincerely hope he will.

In consequence of the appearance of this paper in the present number, we will remit a continuation of Prof. JOHNSON'S paper till the March number:

Some years ago a writer, describing the vegetation of one of the Southern States of America, said, "that a person riding through a field of maize could just touch the top of the plant with his riding stick." When we consider that this is the product of a small seed deposited in the soil a few months previously, it would be difficult to find a better illustration of luxuriance in soil and climate. In the Agricultural Report of a neighboring State, which the author was kind enough to send to me, I find it stated that the average produce of wheat is estimated at from 7 to 9 bushels per acre. We have in these two statements, what may be termed the extremes of wealth and poverty in vegetable life. In the more temperate climate of

England, and upon soils from which the accumulated wealth of forest growth has long since been removed, no such contrasts are possible. On the Rothamsted soil, after the removal of 36 corn crops in succession, and by keeping the land entirely unmanured during that period, we have arrived at a produce very similar to that reported to be the average produce of the State of Tennessee, namely, 8 bushels per acre. I propose to trace some of the changes which may be supposed to take place in a soil during the period (be it more or less) where it was capable of growing a crop of maize so large, and where its fertility was so far reduced as to make it incapable of growing a crop of wheat larger than that referred to. In order to do this, it will be necessary to carry the reader across the Atlantic, as it is only in England that we possess any correct knowledge of the chemical composition of river, spring, or drainage waters, and it is only upon one farm in that country that attempts have been made to gauge the production of the soil by careful experiments extending over a period of thirty to forty years. I do not propose, in my present remarks, to inquire in what way soils were originally formed, or by what processes the plant-food we find in them were accumulated. I will start from the time that man appears upon the scene, and whether it be to-day or several centuries ago, I will endeavor to trace what changes may be supposed to take place by which the fertility of a soil is reduced. It is generally supposed that by ascertaining the chemical composition of the crop removed we possess the measure of exhaustion; it will be seen further on that although the removal of a crop is one of the elements of exhaustion, the changes which take place are of a very complicated nature, and although our knowledge of these changes is at present very imperfect, what we do know is full of interest and importance. Man enters the primeval forest, owing to the absence of roads and rivers; he argues that the timber growing upon it is valueless, while maize can be exported to distant countries with profit; he proceeds, therefore, to fell and burn the timber and to plant maize. His selection of this crop is a wise one; of all the cereal grain crops it is the most suitable for a new soil, abounding in fertility, and the produce of a crop of maize would be far greater than of any other cereal crop. Quite independent of the exhaustion of the soil, due to the removal of fertilizing matter in the maize, several important changes are being effected—an annual crop has taken the place of perennial growth; more rain reaches the soil; the accumulated mass of vegetable debris is slowly dissipated; under tillage oxidation takes place with greater rapidity, and the water, percolating through the soil and beyond the reach of the plant, contains much more fertilizing matter. When we consider how very large is the area of the leaves of trees exposed to the atmosphere, it must be evident that evaporation from their surface, quite independent of any vital function of the plant, must be much greater in this case than it could be from maize. Of the rain that does reach the soil much is retained in the large mass of spongy, vegetable debris which has been the accumulation of centuries of

growth and decay. The water percolating through this vegetable matter must dissolve large quantities of carbonic acid, and, in consequence, the conversion of ammonia into nitric acid must be very slow. The roots of the trees, which penetrate the soil in every direction, extract from the water what little nitric acid it contains; and it may be observed that the roots of trees, although they may be deciduous trees, are capable of extracting food and increasing their growth at all periods of the year. The substitution of a plant of annual growth like maize makes some very marked changes in the operation previously going on. Although capable of taking up large quantities of ready prepared food from the soil, the bulk of this food is taken up close to the surface, and the period of collection in an annual plant is limited to a few short months. From the time the maize ripens until the following Spring, the rain dissolves and carries away much of the nitric acid formed, and after a few crops have been removed, the destruction of the vegetable matter is so great, and the crops are so much reduced, that it may be considered advisable to abandon the land and make a fresh clearance. At what period of time the cultivation of my farm began, it is impossible to say, but certainly some centuries have elapsed since it was in forest growth. It consists, for the first six inches, of brown clay, mixed with the decayed vegetable matter of plants below, and extending to a depth of 8 to 12 feet or more is a yellow clay mixed with flint-stones; this clay is injurious to vegetation if brought to the surface; beneath the clay we find the chalk extending for some hundred feet. At different depths according to the elevation of the land a stratum of water is reached in the chalk from which the inhabitants of the district obtain their supply of water. On my farm this water is reached at about 100 feet. The soils on the chalk are not artificially drained, but the field to which I am about to refer to, was pipe-drained to the depth of about 3 feet for the purpose of experiment. A leaden rain gauge 1.1000 of an acre in area is placed in the middle of a large field and three gauges of similar size have been introduced beneath the soil, without, in any way disturbing it, at depths of 20, 40 and 60 inches respectively; by this means we are able to ascertain what proportion of the rainfall passes beyond the reach of vegetation, furnishing the supply of water for the springs and rivers. Some years ago, Her Majesty issued a Royal Commission to inquire into the means of preventing the pollution of rivers. They have recently presented their final report to the Houses of Parliament. Through the labors of Dr. Frankland, one of the members of the Commission, we are furnished with a complete history of rain-water from the time it reaches the earth. He has discovered a process of analysis by which very minute quantities of organic carbon and nitrogen are determined, and he has determined these substances, as well as the ammonia and nitric acid, in more than one thousand samples of water. The substances dissolved by rain-water falling upon or percolating through every geological formation or soil of Great Britain are thus clearly indicated. As a contribution to sanitary science, the value of this report cannot be

overestimated; it does not, indeed, pretend to deal with any question relating to agriculture; but I propose to make use of it so far as it is applicable to that science, and I hope to be able to show how much it has added to our knowledge of what goes on within the soil. Confining my remarks to the gramineous plants, and more especially to the annual cereal crops, it may be said, that of the various elements of which they are composed, three substances have an influence on this growth much superior to all the others. When applied to an ordinary soil, these are combined nitrogen, that is to say, nitrogen as nitric acid, as ammonia or in animal or vegetable matter, phosphoric acid and potash. The two latter substances are not dissolved in any quantity by rain-water as it passes through the soil; if, therefore, these substances are applied to the soil and are not taken up by the plant, they remain there until the plant is capable of using them. On the other hand, nitrogen forms both soluble and insoluble compounds in the soil; the process of oxidation is continually going on in a cultivated soil, converts these insoluble compounds into nitric acid, which is found in more or less abundance in the drain-water, springs and rivers. There is evidence to show that after ammonia has been converted into nitric acid, nitric acid may be again converted into ammonia, and even gaseous nitrogen may be given off where oxygen is absent from the soil. It is these changes, and also the fact that more or less loss of the important food of plants is always going on, that causes so much difficulty where any attempt is made to explain a process of agriculture. If of three foods used in the growth of plants two remain in the soil until the plants require them, while one is carried beyond their reach, it is evident that this latter one is more likely to be deficient, unless it is supplied to the soil from external sources. The atmosphere, which is mainly composed of free nitrogen, and which also contains ammonia (and nitric acid is generally considered to be competent to meet the demand of vegetation), we shall see further on how far direct experiments confirm these views. For a period of 37 years, the field I am about to allude to, has grown successive corn crops, 34 of them having been wheat; a portion of this field has received no manure whatever during the whole of this period; another portion has received, each year, a liberal supply of soluble phosphate of lime and sulphate of potash, soda and magnesia; other portions receiving, in addition to the phosphate and alkaline salts, nitrogen as ammonia or nitric acid. In the following table will be seen the produce of the permanently unmanured acre, and that receiving a full dressing of mixed phosphates and alkalis, divided into two periods of 12 years:

CONTINUOUS WHEAT CROP.

<i>Permanently Unmanured.</i>		<i>Mixed Minerals.</i>
Bushels per acre.		Bushels per acre.
Mean of 12 years,	} $15\frac{1}{2}$	$15\frac{1}{2}$
1852-63,		
Mean of 12 years,	} $12\frac{1}{5}$	$13\frac{3}{4}$
1864-75,		

That the unmanured acre should decline in produce is not very surprising, and this decline may be due to the absence of any one of the three manure ingredients; but the decline in the acre manured with mixed minerals can only be due to a decline in the supply of nitrogen. The following table gives the amount of nitrogen removed per acre per annum in the total produce of straw and corn:

Mean amount of Nitrogen per acre per annum.	Mean amount of Nitrogen per acre per annum.
<i>Unmanured.</i>	<i>Mixed Minerals.</i>
1852-63, 22 lbs. 6 ounces.	27 lbs.
1864-75, 15 " 9 "	17 " 2 ounces.

The decline, both in produce and in the nitrogen removed in the crop, is very marked in both experiments; that the decline in the experiment receiving the minerals yearly is not due to these being supplied in a form unsuitable to the requirements of the plant, is quite evident, as the addition of nitrogen, either as ammonia or nitric acid to these minerals, has given us an average produce of 36 bushels of wheat, being considerably more than double that given by the minerals alone. If, therefore, we may assume that of the 24 years of the experiment, the first 12 and the last 12, would be equally productive, under equal circumstances of manuring, we can come to no other conclusion than that the atmosphere is not competent to supply the nitrogen taken off by the crop, and that the soil is being gradually drained of what it contains. Dr. Frankland has determined the amount of organic carbon and nitrogen, ammonia and nitric acid in no less than 70 samples of rain-water collected by us for him from the leaden rain gauge. If the mean of all these analyses were adopted, the amount of combined nitrogen falling in the 26 inches of rain at Rothamsted, would be equal to about 4 or 5 lbs. per acre. Several of the samples of rain-water contained nitrogen due to dust blown from the field. In 17 instances the gauge was washed before the sample was taken, and from these samples Dr. Frankland has adopted an average of combined nitrogen which would not be more than equal to about 2 lbs. per acre per annum. Some years ago Professor Way analysed the rain-water at Rothamsted for the years 1855 and 1856, and he found nitrogen equal to about 7 lbs. per acre. The absolute quantity which my land receives is not quite settled, but I am disposed to adopt the lower rather than the higher estimate. I mentioned previously that this experimental field was artificially drained, by pipes running through the centre of each experiment, at about 3 feet from the surface; the drainage water coming from these pipes has been analyzed, both by Dr. Frankland and Dr. Voelcker, and their results agree very closely. The drainage water coming from the experiment where mineral manures alone have been used, contained ten times as much combined nitrogen as the rain falling upon the land; while the drainage water coming from the

experiment where large quantities of ammonia or nitric acid were supplied as manure, contained four times as much combined nitrogen as the drainage water from the experiment manured with minerals only. In these experiments we have no means of gauging the quantity of water which passes into the pipes and subsoil, and so beyond the reach of the plant. In the gauges placed at different depths beneath the surface of the soil we have, however, a record of the annual amount of rain which passes into the subsoil; and on an average of 5 years, 36 per cent. of the rain-fall passed below 40 inches, and 28 per cent. below 90 inches. The analysis of the water passing through this soil, which has been uncultivated and unmanured for some years, shows that the amount of combined nitrogen passing through it must be very much greater than the amount supplied by the rain. I have stated that my subsoil rested upon the chalk. Dr. Frankland has made between 60 and 70 analyses of water taken from wells sunk in the chalk. In various parts of England the mean amount of combined nitrogen contained in this water would be equal to between 30 and 40 lbs. per acre, if calculated as rain; and if we assume that one-third of the rain-fall passes beyond the reach of an annual plant like wheat, from 10 to 12 lbs. per acre must be carried off, which is very much more, therefore, than that which the land receives from the rain. I think no other conclusion can be drawn from Dr. Frankland's analyses than that the water passing through all cultivated and manured soil, carries into the springs, beyond the reach of plants, more combined nitrogen than it receives in the rain. Assuming this to be the case, the question arises, from whence did the wheat crop, receiving alkalies and phosphate, but no nitrogen, obtain its supply. Is it taken from the soil? or from the atmosphere by some power possessed by the plant of condensing or otherwise entering into combination with nitrogen? That a soil does contain ammonia from the atmosphere is very probable; but what is the gain over a given area of soil is quite unknown. One of the most difficult problems which a chemist can undertake is to measure the amount of nitrogen in a soil. The weight of soil within the reach of the roots of a plant is so great that the difference between two analyses as small as the most skilful operator can hope to arrive at, may make a difference of one or two hundred pounds per acre. For these reasons it is necessary to speak with some reserve. Still, there can be very little doubt that the amount of nitrogen in this soil which has received none for 35 years is considerably diminished. The atmosphere does not, therefore, appear to be able to supply the requirement of this crop. We are, therefore, drawing the nitrogen previously accumulated in the soil, and a day must arrive when a crop of wheat may cease to grow or ripen. To what extent this soil is accumulating food adapted to plants of a different order, I do not pretend to enter upon; this belongs to the question of rotation, a most complicated subject, but one which I may, at some future time, make some remarks upon.

In the above I have endeavored to trace some of the causes by

which the fertility of soils is accumulated and afterwards destroyed. If it is clearly understood that all water, percolating through a soil, carries with it more or less nitrogen, we shall at once see why the removal of this substance from the soil, when an annual crop is grown, must be much greater than when the soil is covered with perennial growth. We see, too, how nature sets to work to repair the damage done by man to the soil. It is only by a constant battle with her that my 8 bushels of wheat are preserved as the sole occupant of the soil; and I shall suspect that the small produce of the Tennessee wheat is not so much due to exhaustion of the soil as to the food of the wheat being shared by other plants which occupy the soil. Weeds are not, therefore, without their use in the economy of nature. They arrest the escaping nitrogen and convert it into fixed products. When land is abandoned as exhausted, annual weeds are driven out by perennial plants, and a thick mass of vegetable growth again covers the soil. Fertility is in time restored, not so much by what has been gained, as by what has been arrested in its escape. As land becomes more valuable and population increases, these rude forms of agriculture give place to a more refined system; a rotation of crops is followed; the land receives back a portion of its produce in the form of manure; still later on, imported and manufactured manures are employed. A time will come when the influence of each substance supplied to the land will be calculated with certainty, subject only to the disturbing influence of seasons. Much work has yet to be done before such a result can be obtained. With the increasing interest taken in this science, we may hope to see a much more rapid progress taking place than has hitherto been the case.

Rothamsted.

J. B. LAWES.

TRIBUTE OF THE CITIZENS OF CHARLOTTE TO THE MEMORY OF JUDGE WOOD BOULDIN.

In these discouraging times, it is a pleasure to read a paper like the following, (from the hand of the venerable HUGH BLAIR GRIGSBY), and of a man like him in whose honor these proceedings were had. We can but pray God that the example of such a man may not be lost upon our children. Our boys, to whom Virginia is to look for the preservation of her name, have, in the character and work of those men, now sleeping on her bosom, something on which they cannot dwell too lovingly. What they did "stood within the eye of honor;" and we cannot do less and expect the grass to grow green over us.

A meeting of the citizens of Charlotte was held at the Courthouse, on Monday, November 6th, for the purpose of giving expression to the public regret at the recent death of Judge WOOD BOULDIN.

Col. H. A. Carrington was called to the Chair, and Leonard Cox, editor of the Gazette, was chosen Secretary. Isaac R. Watkins, Esq., in a few appropriate words, alluded to the loss this community had sustained by the death of our distinguished fellow citizen, and on motion of J. B. McPhail, Esq., the following gentlemen were appointed to present suitable resolutions to the meeting: I. R. Watkins,

Esq., Maj. J. B. McPhail, Wm. A. Smith, Esq., Col. W. E. Green, and Maj. R. V. Gaines. The following resolutions, prepared by Hon. Hugh Blair Grigsby, LL. D., presented through Mr. Watkins, and supported by Maj. McPhail, in a few chaste and fitting words, expressive of love and respect for the man, friend, neighbor and citizen, were passed unanimously :

The citizens of Charlotte, in public meeting assembled, on this the first court day since the death of the Hon. WOOD BOULDIN, at his residence, in this county, on the 10th ultimo, are impelled, by a sense of respect for themselves, and by their admiration of the genius and worth of their eminent fellow citizen, to express their feelings on his sudden decease.

Distinguished as our county has been by the virtues and accomplishments of her sons, she has rarely been called upon to lament the death of a citizen who united in his person and character, in so remarkable a degree, those various qualities of the head and the heart, which, while they confer honor upon the individual, enhance the reputation of a whole country. Descended from a parent who, in the meridian of life and in the splendor of his fame, fell in the performance of his duty, on the floor of the House of Representatives of the United States; he emulated not only the legal and judicial skill of his progenitor, but his reputation as a statesman.

Trained to the law under the auspices of that great jurist, the late WILLIAM LEIGH, whose memory casts a halo of light in the court in which he presided for so many years, and who lived to behold the distinction of his pupil, Mr. Bouldin soon acquired an elevated rank at the Bar, which he maintained and enlarged in the progress of years, until he received the highest reward of professional eminence in his election by the General Assembly to a seat on the bench of the Court of Appeals. It not infrequently happens that a popular advocate, on assuming the gown, shows an unfitness for his new and responsible sphere, and disappoints those eager friends who are apt to confound the qualities of a practising lawyer with that rarer and more exalted excellence which is required on the bench of the highest tribunals of the law; but in the case of Judge Bouldin, the warmest expectations were more than fulfilled by his indomitable industry, by the extent of his learning, by the stern impartiality of his decisions of questions involving the passions of the day, and by the unblemished purity of his life.

But, while we accord deserved praise to the lawyer, to the jurist and to the statesman, who in the Legislature of Virginia, and in her Constitutional Convention, won reputation for himself and faithfully served his country, it is in the more private aspect of a friend and neighbor, and as the head of a large and lovely family, we, the people of Charlotte, are irresistibly inclined to dwell most tenderly on his gentle memory, and to mourn his loss. In his graceful person, in his winning address, in his genial temper, in his fine colloquial powers, which charmed the social scene and drew forth the praise of the passing stranger, and in the attitude of a friend, of a husband,

and of a father, his merit could not well be surpassed. We grieve, indeed, at the extinction of such a light in the horizon of the law; we lament that we shall hear the cheering tones of his voice and see his face no more; but our sorrow is soothed by the contemplation of what he was, and what he is. Though taken suddenly from us, he had yet passed the grand climacteric of human life—an age which neither Cicero, nor Choate, nor Randolph, nor Patrick Henry, those enduring lights of the Forum and the Senate, nor his own honored father, ever reached; he escaped, for the most part, those domestic trials and sad social reverses which darken so many homes, and which afflict the heart with the keenest anguish; he never lost a friend, and never made an enemy; and he invested an honored ancestral name with a lustre which it had never known before.

Not that he was insensible of the terrible loss of his worldly substance—the accumulation of an entire life of industry and thrift—consequent upon the recent civil war which wiped away the wealth of centuries, and which threw the support of his family on the labors of his declining years. But he felt that all that was worth living for was not lost. None was more conscious than he was that the wealth that attracts the common gaze was fleeting and fragile; that the largest amount of treasure, likely to be hoarded by a single individual in our Southern land, was liable to pass away in an instant; that fraud, fire, tempest and the sword, may consume it in the lifetime of him who gathered it, and that at best and farthest it becomes in one or two generations a pittance to posterity; and he realized with a generous pride that the glory of moral and intellectual worth alone brightens with successive ages, and endures forever. Such was the legacy which our departed fellow citizen bequeathed to his wife and children, to his friends, and to our common country. Let us heed with emotions of pride and joy even in the midst of our tears, the lesson which such a life affords, and teach our children to heed it, and to imitate so bright an example.

Fortunate above most men in his earliest connections, and in his maturer years in the blessings of domestic love; fortunate in the brilliant fame which he had achieved in his professional and judicial career, and in the esteem and admiration of his fellow citizens; he was also fortunate in the mode of his death and in his last resting-place. He escaped the torture of a lingering illness, and passed away in the presence of those who were nearest to him on earth, and who caught his latest sigh; and as if in death as well as in life, he would fain increase the patriotic associations of his native county, his remains now repose near the dust of Paul Carrington, the elder, of John Randolph, of William Morton, and of our own incomparable Patrick Henry—that sacred brotherhood of illustrious dead, who have so long hallowed our soil and will hallow it evermore; and there, in the bosom of his own beautiful and classic abode, which overlooks the vale of the Staunton, and is reflected in the sparkling waters of that historic river as it sweeps by the graves of his immortal predecessors on its way to the sea—we leave him in faith and hope, and

commit his memory in full confidence and affection to the generations that shall succeed us in the heritage of home and country, and that will not forget, we fondly trust, amid the cares of the present, the genius and worth and glory of the past. We, the people of Charlotte, do therefore,

Resolve, 1. That while we deeply lament the death of the Hon. WOOD BOULDIN at a time when we indulged the hope that some years of usefulness and honor were in store for him and for ourselves, we are grateful to the Giver of all Good that we have been blessed with the presence of such a man in our midst from his cradle to his grave; one so variously endowed with the moral and intellectual qualities which make the gentleman, the jurist, the patriot and the christian; and one whose genius and worth imparted new lustre not only to his native county, but to the Commonwealth at large.

2. That we tender to the widow and family of our departed fellow citizen, our earnest and affectionate sympathy in their great bereavement.

3. That a copy of the proceedings of this meeting be enclosed by the chairman to Mrs. Bouldin.

4. That the editors throughout the State be, and are hereby requested to publish the proceedings of this meeting in their respective journals.

H. A. CARRINGTON, *Chairman*.

L. Cox, *Secretary*.

[For the Southern Planter and Farmer.]

SOME COMMENTS ON COL. BEVERLEY'S ADVICE TO OUR YOUNG MEN.

Col. Beverley, in the June number of the *Planter*, gives good advice to the young men of Virginia to remain in the State and help to build up the waste places that are now desolate, and aid in bringing thrift and prosperity to our doors again. After laying down certain rules for the guidance of young men, he sums up by saying, "My word for it, three years will make your 100 acres as rich and productive land as you will buy in the West or anywhere else." Col. Beverley lives in one of the best farming sections of the State, and doubtless was referring to such lands as he is surrounded by, and not to the broomsedge and piney old fields, that we find in a large portion of Eastern Virginia.

I differ with him in the conclusions he arrives at—a beginner making 100 acres of poor land rich in three years! It is impossible in this section, unless the parties have ample means at their command. I have no knowledge of any beginner improving poor land at that rate. I admit that land of a superior quality, that has from excessive cropping become tired, may be very much improved in a short time. Any beginner, with but little capital, that has made one-third, or even one-fourth of 100 acres rich in three years, im-

proved generally the balance of his farm, supported his family comfortably, and kept out of debt, has done well, and may look forward to the day when he will have a farm that will be a pleasure to him to cultivate; and besides, his profits will increase each year in the same proportion that his lands increase in productiveness. Have the highly improved farms in the State been brought to their present state of productiveness in a few years? or rather has it not taken years of study and toil to improve them? I am not writing to find fault with the communication written by Col Beverley. Taken as a whole, it is the best article I have seen on the subject. I am certain I express the wishes of a large majority of the Virginia readers of the *Planter*, when I say I would like to hear from him again on the same subject; but to show to the young men, if they should fail to improve their lands at the rate mentioned, they should not be discouraged; if they persevere, they must succeed in the end.

Feeling a great interest in the prosperity of the old State and in the young men commencing life, I propose to give them some advice, if they expect to engage in the cultivation of the soil. I am not writing for the young men who expect to succeed without close application to business, who spend the most of their time in taking pleasure, depending upon hired labor to manage their farms, (all farmers of experience know, that freedmen, without the proprietor's attention, do their work in a careless manner, and besides they will do very little without they are constantly looked after), but for the young men who are willing to lay off their coats, not ashamed to appear in the garb of the workingman, and are willing to labor faithfully, who can use the axe or hoe, handle the spade or shovel, guide the plow and attend to all things that are necessary to success on a well conducted farm. They should acquire information. Knowledge does not come by intuition. It takes study and hard study to obtain it. Besides acquiring general information, they should learn what their lands require to make them produce good crops; learn how to cultivate their crops; learn how crops grow; learn the habits of their horses, cattle, hogs and sheep; keep them gentle and quiet; gentle stock are generally thrifty if attended to; wild stock rarely do well. Make all the manure possible; apply it at the proper time; do not let it remain in the barn-yard for months, exposed to the weather, until it is barely worth the labor to cart it to the field. Thoroughly prepare the land before planting your crops. If the soil has been well plowed and gotten in fine condition, all crops will make a better start than they will on land improperly worked. Why is it that some farmers are more successful than others? One of the principle reasons is, they work their lands better. If you wish to succeed, cultivate well. Do not let the grass get the start. No summer crop will do well if the grass is allowed to grow. Get your lands well set in clover, timothy and orchard grass. Sow one and a half gallons of clover and timothy seed each, and one bushel of orchard grass seed per acre. If the season is favorable you will be almost certain to obtain a good stand. With a

liberal application of plaster after harvest, and again in the spring, you will be surprised at the growth your grass will make, even on poor land, if the stock are kept off. I read not long since of an English farmer, who said that he fed his land before it was hungry, rested it before it was weary, and weeded it before it was foul. That is the whole secret of successful farming. If our farmers, old and young, would follow the Englishman's plan, we would hear less said about hard times.

No young man should start with more stock of any kind than he can feed liberally. His herds should be small, but the best his means will justify him in purchasing. If not able to obtain improved cattle, hogs and sheep, buy improved males of each kind. In a few years, if he handles them properly, that is, grazes them well in summer, shelters and keeps them in a thrifty growing condition during the winter, he will have stock that will be a profit and pleasure to him.

In each county there are some farmers far ahead of their neighbors and are looked upon as the successful men in their calling. Young men should consult them, and get their views upon farming. Unfortunately very few of the best farmers write for the agricultural papers, and there is no means of profiting by their experience but by conversing with them. I will give an example: A young farmer in this section was planting corn early and deep; a farmer of experience told him he was covering his corn too deep, and advised him to cover shallow. The result was: The corn planted shallow came up well; that planted deep failed to come up, and had to be planted again.

In the selection of farming implements, buy the best and only such as you need; the best will cost more, but are the cheapest in the end—lasting much longer than inferior ones. Farming implements will not last long scattered over the fields exposed to the weather. When not in use they should be sheltered; then there will be no difficulty in finding them when needed. Keep the fences and ditches well cleared up. It looks unsightly to pass through a farm to see the fences and ditches grown up with bushes and briars; besides, your fencing will last longer if the sun has free access to it, and your ditches will not be so liable to fill up if all obstructions are removed and the banks allowed to sod.

In conclusion, I advise the young men to marry early. Let each one select some prudent young lady, that is not afraid of soiling her hands and who does not carry a dry goods store on her back, and he will soon find that such a lady will be a helpmate indeed. To the credit of the ladies in this section I must say, that they have adapted themselves to our changed condition, since the war, much more readily than the men. Many of them who were raised in affluence, surrounded by all the luxuries that wealth could command, are now performing a part of their household labors, and doing it cheerfully. Keep out of debt; attend to your business; be economical and deal justly with all men. My word for it, in your old age you

will have sufficient of this world's goods to make you comfortable, and the respect of all good men.

I have only mentioned a few things that I think are essential to success in the start. We should, by all means, try and induce the young men to remain in the State. The prosperity of the people of Virginia, for the present, at least, depends upon an improved system of farming. M.

Madison county, Va.

[This is the spirit we love to see. Let it extend.—Ed.]

[For the Southern Planter and Farmer.]

A FARMER'S NOTIONS, &c., AGAIN; AND TAXATION THE THEME.

Your journal affords a most excellent medium for attracting attention to the jealousy between different sections of the State and between different interests—notably, the agricultural and mercantile, one which has nearly, if not quite, brought the body-politic to the condition of the body mentioned in the fable of “the quarrel between the stomach and the members,” and which cannot be eradicated until men are entrusted to make our laws, who are honest, fearless and independent; who, despising the arts and tricks of the demagogue, follow the guidance of intelligent judgment, and, by the force of educated reason, instruct their constituents, leading them from ignorance and error to a proper apprehension of their true interests, the compass of whose minds embraces the State, whose practical view is equal to a survey of the State, and is not limited by the view from a country cross-road; in short, statesmen who recognize the fact that they are the physicians of society, who prescribe the rules of social health, who will see that no over-work or extra burden is laid upon any class or interest, lest under the tension of over-performance or enforced in activity, injury result first to that class or interest, and then to the body-politic itself. The true statesman recognizes that society has its anatomy, its physiology, its irregular structure, its functional disorders, its laws of compensation, the penalties of which are postponed by the subordinate law of adaptability, but that these penalties will intervene, and serious disease will ensue under empirical treatment; that there is a system of general law, the proper observance of which is essential to health, individual or social, and that it is better that they should be clearly understood, appreciated and followed than that we should trust to an imaginary ability to divine remedies for their violation.

Government is not designed to interfere with individuals or sections, even for their own good. It is but a police system designed to secure to every citizen safety in the enjoyment of his life, liberty and property, to secure to him such use of his property as his judgment dictates, not inconsistent with the public good, and the exercise of all of his faculties compatible with a like liberty to others,

and it must be by the exercise of his faculties, wisely or unwisely, that the citizen secures his own future, whether it be good or ill, and contributes to the social and political advantage or disadvantage of society.

Had such men only been entrusted with the legislation in Virginia since the war as were capable of being measured by the foregoing standard of statesmanship, many evils which afflict the State might have been avoided.

Under the influence of the stay-law, no doubt thought wise by many of its framers, debtors were induced to hold lands which they had not the capital to work, until they were greatly depreciated in value, while their indebtedness was increasing from day to day, through the accumulation of interest, and the creditor angered at the bad faith of the State in depriving him of the remedy which was insured to him when the debt was contracted, and, by the supineness of his debtor, who was resting in the security of the bad law, became intractable and less ready for compromises; litigation was stimulated, and the State was a sufferer from the reduced productions of the soil, occasioned by the fact that these debtors would hold on to the lands which they could not work, and that the time of many of the people was spent in the court-house, which should have been spent in the corn-field. Had debtors and creditors been let alone to settle their affairs, in accordance with the laws in force when their contracts were made, the debtor, realizing necessity for prompt action, would have exerted himself to the utmost to pay, while the creditor seeing his efforts would have been the more ready for equitable adjustment.

The measure known as the homestead law, which offers a premium for want of thrift and honesty, is a severe criticism upon the statesmanship of Virginians. No man in debt should be willing to hold property, except in trust for his creditors, and no State can have a better basis of prosperity than in the honesty and thrift of its citizens. The measure was put into the Constitution by the Reconstruction Convention to corrupt the people and induce the debtor class to vote for the ratification of its work. Another forcible illustration is found in the repudiation of one-third of the State debt in the passage of the funding bill, and in the attempts made to prevent its being carried out in good faith after the creditors had accepted it as a compromise, and the Court of Appeals had declared its binding effect; another, in the division of a part of the revenue of the State into a sinking fund with which to SHAVE THE STATE'S OWN OBLIGATIONS after their depreciation, a depreciation produced by the above-mentioned action of the State, and by (in the form of taxation) reducing the interest which the State had promised to pay; by hampering and restricting by every device the use of coupons in payment of taxes which the State was pledged to receive; by the failure, even when revenue was collected, to appropriate more than sufficient to pay four per cent. interest on the funded bonds, when six per cent. was promised; by keeping up an expensive school system, requiring

the support of an army of office-holders, at State expense, out of revenues properly belonging to the creditors of the State, *conduct generous, perhaps, but not just*. But a crowning illustration is found in the system of taxation adopted by the State in violation of every principle of justice as well as of policy, a system which led to the separation of West Virginia from the Old Dominion, and one which, if persevered in, must bring about a union of the laboring classes against property, and lead to a retaliatory system under which property will have to bear the entire burdens of the State. Taxation, a right inherent in sovereignty, should be exercised with the greatest prudence. It has been improperly defined the right to take private property for public use without compensation; but it has a much more equitable basis, and springs from the principle that where common protection is afforded common contribution should be made to the protecting government. Protection is the benefit conferred, and contribution is the obligation imposed by way of compensation. That protection to the citizen is to enable him to enjoy his life, liberty and property. The life and liberty of one citizen is as dear to him as is the life and liberty of any other citizen to him, and protection to life and liberty, to be perfect, must secure to the citizen protected the fullest exercise of all of his faculties, which is consistent with a like liberty to all other citizens, and a right to make such use of his property as he likes, not inconsistent with the public good. Where so afforded, it entitles government to impose an equal tax per capita upon the person, and an equal per cent. upon the value of the property, because protection to property is valued in proportion to the value of the property protected, and that property should contribute an equal per cent. upon its value as a compensation for the protection it receives.

From these principles spring the idea of equal, uniform and *ad valorem* taxation. For many years in Virginia it has been the rule to disregard them. In the Convention which framed the Constitution of 1852, representatives from those counties, now embraced in the limits of West Virginia, tried to prevail upon the representatives of what was then East Virginia, to deal fairly with them, and make the then proposed Constitution secure them against the inequalities of the then and since prevailing unjust system, under which at this time were taxed the lands of West Virginia and the other personal property *ad valorem*. While the negro slaves in the East, three-fifths of whom were made by the eastern majority a basis of representation, by way of strengthening their ascendancy, were taxed (when over twelve years of age) at an arbitrary fixed valuation per capita, far below their market value, and this, too, when the revenues of the State were being largely invested in public improvements lying almost entirely in East Virginia, and from which the West derived but little benefit. The efforts of the West were unavailing, and hence, when the opportunity for the revolutionary division of the State was afforded during the war, it was embraced by a large number of the people. When the present constitution was framed,

it was the intention of a majority of the framers to have so altered the fundamental law as to have guarded against such inequalities; but their work was so bunglingly done, that, by the aid of misconstruction, the State has been deprived of the benefits which were designed, and the present unwise system has been fastened upon us. Until the people will consider the subject as one rising above mere party considerations, and as touching the prosperity of the State, no matter by what party controlled, there can be no relief. Let us hope that the day will come when they will learn the true moral principles of taxation; if in no other way, through a proper apprehension of their material interests. They should learn that the material interest of the State demands that the time, talents, energy, and property of her people should be employed in the manner which will produce the greatest material results; that the law of self-interest is the best guide to the citizen as to the application of his faculties and wealth; that he should be interfered with as little by the Government as possible—the effort should not be made to help him on, or hinder him by legislation. Self-interest would soon become educated under a let-alone policy. He is the valuable citizen who labors, either mentally or physically, though he but “makes two blades of grass grow where one grew before,” rather than the man of property who consumes, but produces nothing; who is either a drone who won’t work, or a fool who can’t; and it is fair to argue that there is no reason why industry, skill and enterprise should be taxed in order to lighten the tax upon property; that if those who own property cannot pay a tax which would be a fair compensation for the protection afforded it, those who do not have the property ought not to be forced to pay it. It is certainly true that a man who has property, with talents, energy and enterprise, has a great advantage of the man who is equal in all respects, save in the possession of property. Yet, under our system of taxation, the man with only talent, industry and enterprise, must pay a heavy license tax in order to exercise his talent, &c., either in the learned professions, in mining, manufactures or commerce; while the idler, whether with or without property, escapes all personal taxes except the fifty cents capitation tax.

My aim in this letter is to throw out these views to the public in the hope that discussion of the subject, to which they relate, will do good, and I invite criticism from any quarter that it may come.

A FARMER.

Charles City county, Va.

NOTE BY THE EDITOR.—When a baby is able to use its legs reasonably well, we do not insist upon keeping a servant all the time holding it up to prevent its bruising its nose, or suffering other injury. Otherwise, we would have a very rickety child, and, if this way was kept up long enough, one utterly without stamina, either in head or body. We tell it to go; and if it falls, let it fall, and bruise its nose too, if need be. That gives its body strength, its soul courage,

and its head wisdom. If this is necessary to be done, to accomplish such desirable ends in a child, should a grown-up man expect, or even desire, any more delicate treatment? And yet the legislation of this State has, in the main, since the war, been projected on the basis of poor souls who needed the constant "protection" of a servant holding them up under each arm. They are not expected to use the judgment with which God has invested them at all; the State must think for them, and "protect" them at every step. There is no lusty manhood in this sort of business; that is plain; and it has tended to destroy in us the force of those two obligations that have made England so much honored, namely: "fair play," and "*every man is responsible for his acts.*" These obligations are the very essence of civil liberty itself. What business had the State to interpose between man and man, with its "stay laws" and "homestead exemption," and what good has it accomplished? It has given us a very rickety State. The creditor has been defrauded of his rights, and the debtor has been made no stronger. It has stabbed Virginia honor almost to death.

Our friend speaks of "statesmanship." That article has been as scarce as diamond dust, for many years past, in this country. And it cannot be otherwise under the accursed system of universal suffrage. Like the free school, it levels down; it never levels up. It is the key that explains fully the doings of law-givers, not only in Virginia, but elsewhere in the United States. "*Salus populi suprema est lex,*" and "*salus ubi multi consilarii,*" both read very prettily, but there they end; in fact, they are a most bitter satire upon things as we find them in this wretched country.

When is the healing to come; and who will be the physician?

[For the Southern Planter and Farmer.]

ON "THE ROTATION OF CROPS PROPER TO BE OBSERVED IN EASTERN VIRGINIA."

This subject, to which you called attention in your October number, is too large to be exhaustively treated in a single article, and I therefore make no excuse for trying to supplement the excellent essay of Dr. Brodnax, which appeared in the *Planter* for November. Neither is any apology needed if I differ from him in minor matters of detail—the prime object being to draw the attention of Virginia farmers to this important question. Many of them have gone, and are going, on as though there were no such thing as "rotation of crops" properly so-called. And even where regular arrangement is observed, in some sort, there are two errors almost universally committed. First: the rotation is too short *i. e.*, the exhausting crops follow each other in too rapid succession; and secondly: The *order* in which different classes of plants should succeed each other is not sufficiently considered.

The best rotation is that which gives the largest returns of valuable commodities, and at the same time allows the productive power of the land to be increased, or at least maintained. In trying to accomplish these two results, men long ago found out a general law (with some apparent exceptions, which need not be mentioned here) that plants of the same or of kindred families fail to flourish when

cultivated year after year on the same spot. Whether we account for this in the "excretory theory" or on the simple ground that one generation absorbs the plant-food and leaves not enough for the next—the fact remains that it is so. What then? We must have intervening courses of plants of a different character, and from time to time "ameliorating crops," or such as restore the abstracted elements of fertility.

Now our Virginia staples are of the most exhausting—especially the cereals. Wheat, oats, Indian corn (and washing rains), assisted by unskillful and improvident cultivation, have sadly scoured the soil of old Virginia. Tobacco has long had to bear the blame of this, and has, indeed, contributed to the result, but rather *indirectly*. Appropriating to its own use all the manure and almost all the labor of the farm, it left the rest of the land to be worn out in growing *grain*, while the "lots" reserved for its special behoof were kept up. Grain has done the mischief, principally; and in this country we have a serious hindrance to the practice of a scientific rotation that our main *hoed* or *cleansing* crop is one of the cereals—Indian corn. This is nearly always followed by small grain, and the worst of it is that our farmers generally think they are fulfilling all the requirements of a good rotation when they alternate corn with wheat and oats, or *vice versa*; whereas the demands made upon the soil by all these are much the same. One of the best agriculturists I ever knew, a man of large experience, who owned some of the richest low grounds in Virginia, has repeatedly told me that he could never get a heavy crop of wheat after a full crop of corn, but that if his corn was short he counted on a full yield of wheat. In Tidewater Virginia an intervening crop of peas gives fine results—almost insures the succeeding crop of wheat. This is in accordance with sound theory, and the benefit is beyond cavil—in *certain localities*. Let it be tried on a small scale. That pea fallows do not give good results in this section of country, I think has been ascertained by myself and others after repeated experiments, varying through more than twenty years. But I am led too far from the main question by this interesting subject, and return.

So little care is taken to alternate species of plants that we frequently find *three* grain crops in as many successive years. This was part and parcel of the "Tidewater four-field system"—a course thought to be perfection in the palmiest days of Virginia farming—between 1835 and 1860. The rotation was simple. First year, wheat after clover; second, corn; third, wheat; fourth, clover—a crop of corn sandwiched between two of wheat.

To hastily condemn a system pursued by such men as Major Hill Carter, John Selden and other eminent farmers, and one which, under them, gave such grand results, would be rash indeed. They had "good cards" and played them well. With lime (just then coming in vogue) to draw out the latent resources of the soil—as it were "bringing forward results"—making available vegetable matter that had been accumulating for years—with *clover*, also new to the

land growing so luxuriantly—with these and with good cultivation the owners of fine lands prospered and saw no signs of impoverishment. But if history and experience can teach anything, if the general laws and results which have obtained everywhere else are applicable *here*, exhaustion would necessarily ensue from a persistence in this system. Three grain crops in succession—nearly all the grain exported from the farm, and *one* crop of clover expected to recuperate the land for three more of grain! Could any land, not periodically or heavily manured, stand this? Contrast, for the sake of illustration, the system just described with the well-known “Norfolk four-course,” under which lands in various sections of England were brought, in a few years, to the highest pitch of fertility. The rotation is: First year, turnips; second year, barley; third year, clover; fourth year, wheat. Here plants of an entirely dissimilar nature succeed each other in beautiful arrangement. The cleansing culture of the turnips prepares the land admirably for the cereal, barley. Barley is a peculiarly good “vehicle” for clover—favorable for getting a “catch.” The clover enriches the land for wheat, and both turnips and clover prevent the exhausting crops of the series from coming together.

I have said nothing about the manuring for turnips and feeding them off the field—the object being to contrast a scientific rotation with one altogether the reverse. I would not presume to advise any one to introduce here the English system. Perhaps the time has not come for field culture of turnips on a large scale. I know of no such enterprise except that of Messrs. Landreth, in the Northern Neck, where they grow turnips for seed. Yet, it may not be amiss to add, that in spite of the drouths, which vex us now more than formerly, turnips may, by proper care, be grown to great perfection almost any year, and there seems no good reason why they should not be profitably raised on the largest scale—fifty or a hundred acres even—for fattening sheep and cattle for market. But as this is rather speculative than practical, the question is still open: What are we to do *now* to restore our lands to their original fertility, and to carry them beyond it? Dr. Brodnax, in the able article referred to, has clearly indicated the general course we must take. *The grasses*, nature’s own way (*one* of her ways, at least), must be our reliance. *Long* rotations, bringing in the exhausting crops as seldom as possible, leaving the land to recuperate in the interval by stirring up vegetable matter and by the disintegration of minerals. Avoid excessive grazing. In our climate land will not improve when hard grazed—not, I think, because of the hot sun “killing” the land as it is popularly expressed, but because close grazing interrupts the restorative process of nature. Grass, and even weeds, often perish, root and branch, under such treatment. But if the land is not well adapted to grass, or if season after season we fail to get a stand of clover or other grass, as almost all of us have done for several years, then let it rest all the same, unless you sow peas, buckwheat to be plowed in, or some other ameliorating crop. Weeds and native grasses will rapidly improve any

land that is not a *caput mortuum*—only protect it. Let any one observe a corner of his field that is turned out, or a nook about the garden or orchard not trespassed on by stock, how soon greensward and “rich weeds” spring up—how the character of the soil seems to change in a few years!

Moderate and judicious grazing, to pay the rent of the land while lying fallow—the stock to be increased as the land becomes rich—this is to be commended, except that the hoof should rarely touch a *clover field* save to draw the mower or tedder.

Some day when we rise to the moral plane of the people of Connecticut and dare to pass a “dog-law,” sheep-husbandry will be an important industry in Virginia. While our land cannot carry so many sheep to the acre as can good grass countries, to make amends, sheep are exceptionally healthy here, perhaps more so than anywhere on the globe—only good laws are needed for their protection.

Sheep would gradually clothe the land with sod, destroy sassafras, divert much of the land from tillage, increase the yield from the rest, and so save much costly manual labor.

Dr. Brodnax, in his clear and excellent article, has given examples of different rotations. Most of his recommendations seem to be admirable. Some of them, I think, might be amended; but we view one factor in the series from an entirely different stand-point. Evidently the Doctor takes small account of tobacco, as is shown by the place he assigns it in his rotation, as well as by what he says of its occupying “the lowest stage in progressive farming.”

To enter into a defence of tobacco raising would lead me too far. I will only say, that to prosecute it successfully, requires as much patience, watchfulness, sagacity, as any branch of farming I know of. And it appears almost heresy to give to so valuable a crop a place *after corn*, as the Doctor several times does. The way to make it profitable is to give it “the best in the shop.” Arrange your shifts so as to let it come after clover or a grass sod. The first course recommended is a five-shift: “First year, corn and tobacco; second year, oats; third year, wheat; fourth and fifth years, clover.” I think an improvement in this would be: First year, corn and tobacco; second year, wheat and oats; third year, clover; fourth year, wheat; fifth year, clover. This would avoid the three grain crops coming together.

The second rotation recommended, which Dr. Brodnax regards as better than the first is: “First year, corn; second year, tobacco, oats and peas; third year, oats, to be sown with clover, and the part of the field in tobacco and peas, to be sown in wheat; fourth and fifth years, the land to be in clover.”

I have no doubt land would rapidly improve under this course well carried out, while I cannot think it good judgment to give tobacco the worst place in the rotation.

Nothing is said about grazing, and I presume a standing pasture is contemplated in this scheme, otherwise the clover would fare badly, as would the stock, if many heads were kept. Indeed there should

be a standing pasture on every farm, so that the clover and other grasses in the regular rotation could be protected when desired—grazed only at such times as the farmer might think discreet.

As Dr. Brodnax indicates, a six-field system is better than a five, and a *seven* than a six, under certain circumstances. Of course, objections will arise—a manifest one being that, in general, a sixth or a seventh of the arable land will not give a sufficient area for corn. I would, then, recommend cutting off a standing corn-field to supplement the annual shift, to be cultivated by the plan described by Col. F. G. Ruffin in the *Patron*—corn planted in wide rows and peas sowed at the last working of the corn—the next year the rows to be reversed. I cannot agree with Col. Ruffin, that land would improve thus treated. It was tested for eight consecutive years by my father, the late W. B. Harrison, and I am confident the present owners of the land will bear me out, that the fields in question gave back towards the last. But, for three or four years, there would probably be no manifest decline. As soon as it appeared the field could be thrown back into the rotation, and another taken in its stead. Let me exemplify: Suppose a farm of 400 acres of ordinary land, exclusive of wood land, garden, orchard, standing pasture, &c. Divide into eight fields of 50 acres each. Select one as the standing corn-field, one not inclined to wash, as, if so, it would be apt to go all to flinders with washing rains; then we have seven fields. First year, corn and tobacco—say 30 acres in corn and 20 in tobacco, and with the standing corn-field, 80 acres in corn; second year, wheat and oats; third year, clover; fourth year, wheat; fifth, sixth and seventh years, in grass: mowed and grazed in moderation. As the land improved the area of corn might be reduced.

This for a system of mixed husbandry for soils well adapted to grass. There are sections where such a course would be entirely out of place—the light sandy lands of Tidewater and certain sandy loams of the tobacco region. A simple four-field system for the last would probably be as good as the best: First year, corn and tobacco; second year, wheat, or wheat and oats; third and fourth years, clover. There is no fallow for wheat in this course. Indeed wheat is a crop of secondary importance with many of the most successful planters. And it would be presumptuous to criticise this policy in view of the results often obtained.

These planters know well the value of clover as a preparation for tobacco. The favorite course with them is the three-shift, differing from the above only (and to that extent being a harder system) in allowing one year's rest and clover, instead of two.

Mr. Editor, I have far exceeded the limits of a modest article, and have only "skirted" the subject. It is too big for me. By "Eastern Virginia," you undoubtedly mean Virginia east of the Blue Ridge. What a diversity of soils and staple crops do we find in this broad stretch! The grass region proper, the tier of Piedmont counties from Loudoun to Albemarle inclusive; the tobacco region or *regions*, (for this plant is cultivated under very varied conditions);

the grain-growing sections of Tidewater: the cotton and ground-pea country; and lastly, the Eastern Shore, with its "Magothy bay bean," which justifies an exceptional course of cropping. Each of these is worthy of a special essay.

I have said nothing of the tendency of certain lands to become infested with noxious weeds and bushes, or, in farming lingo, to become "foul," necessitating more frequent resort to cleansing crops than would otherwise be proper. I have already said too much on some subjects if not enough on others. If any brother farmer shall have the patience to wade through these disjointed and often trite remarks, and can gleam a suggestion, a hint which may benefit him, I shall be more than content.

RANDOLPH HARRISON.

Cumberland county, Va.

NOTE BY THE EDITOR.—We are sure that all of our Virginia folks will thank Colonel HARRISON for the above; and we hope that gentlemen in other parts of the State will take up the theme, and let us have the benefit of their knowledge. It is discoursing of a very direct road to profit; and we all work for that.

[For the Southern Planter and Farmer.]

THE ALL-COTTON PLAN.

I am glad to see that our planters and farmers are beginning to see the benefits arising from a change of the "all-cotton system," which has been pretty generally adopted since the war. The large oat crop raised this year has convinced them of the benefit of raising their supplies at home, and enabled them to purchase bacon for oats, which they could do at *cash prices*, instead of paying high rates of *interest*, or not being able to get it at all?. We should, under the present low price for cotton, make all our own supplies. A manufacturer of cotton goods told me yesterday that, unless he could get his cotton at ten cents per pound, they could not make any money—that they now had a stock of goods on hand, and had reduced the wages of their operatives twenty-five per cent.; consequently cotton must come down, to enable them to go on. Now the question arises, How are the planters and farmers to manage to meet the low price of cotton? It is to raise our own supplies. We need a fence-law to *compel every man* to fence his stock; then we would have better stock, make more manure and improve our lands, and live within ourselves. Our country must be self-sustaining before we can begin to improve—raise our horses and mules, beef, butter, milk, bacon and mutton; our own hay—make it so plentiful and cheap as to forbid the importation of hay. It is the easiest raised, and pays better than *any crop we raise*. Five to ten tons to the acre at 50 cents on a hundred pounds will pay very well. Potatoes, both Irish and sweet, pay very well at 50 cents a bushel. They were worth a dollar and a half here last Spring, and were imported from your city. Cabbage, turnips and peas are all *good crops*

for home use. Cotton is the crop to bring the cash, and should be raised as a surplus crop, and on the best land it will pay the best. If we have all our supplies, we are not forced to sell the cotton at a sacrifice.

JONATHAN M. MILLER.

Halifax county, N. C.

[For the Southern Planter and Farmer.]

THE LABOR QUESTION.

Sitting here to-day, listening to the fierce howling of the wind and beating of the hail, with all nature fast locked in "winter's cold embrace," with no prospect of any out-door exercise to-day, my thoughts naturally, as the closing days of the old year go by, turn to the efforts, the trials, the fears, the hopes, the failures and successes which have attended our plans during the year, and by a careful review and honest consideration of them, strive so to plan and execute for the future that we may have fewer failures and greater successes.

Sir, while meditating upon these things this morning, one subject has forced itself upon my thoughts to the exclusion of all others, viz: The Labor Question. In my humble opinion, the whole labor system of our State is radically wrong—alike to land owners, laborers and the best interests of our people generally; and the scarcity of money, the depression of business, and the universal lack of thrift and prosperity, I think, can in a large measure be traced to its defects. The tenant-system is, to a greater or less extent, in operation all over the State; I have been working my farm in this way ever since I have been farming, and every year's experience gives more convincing proof of its utter unadaptability to the proper development of our resources and upbuilding of our agricultural interests.

There is no pursuit which requires more forethought, more careful and intelligent study, a larger and more varied stock of general information, than is necessary to manage successfully and profitably a good sized farm in Piedmont, Va.; and yet every negro thinks he can do it, and the land owners concede it, or admit their inability to do better, by allowing them to try it. And the general result has been that low-lands have become sobbed and grown up in willows and elders, for want of proper draining. Fences have gone down and old field pines, sassafras bushes and briers have gone up. Hill sides are washed away. Stock, for want of proper and regular attention, has depreciated, and thousands of hides go to the tanyard every Spring from neglect, while it is a notorious fact that on most medium sized farms more than enough is fed to keep them in good condition. Three-fourths of our tobacco goes to market ragged, worm-eaten, bruised, broken and badly handled generally, and doesn't bring more than two-thirds of what it should; so with all other industries; our every interest languishes, and our people are poor and despondent.

The negro, by every characteristic which distinguishes him, is ut-

terly unfitted to be a manager and eminently suited to be a laborer; his training, too, for several generations in this country, if he had ever possessed any, would have deprived him of the power to exercise that care and forethought so essential to successful managing. I think these views are pretty generally held by all who are familiar with this subject, and who have given it their honest and earnest consideration. This being the case, then, why is it that the land owners, all over the State, persist in the maintenance of a policy which is detrimental not only to themselves, but to the interest of the laborer as well? Are we ready to acknowledge that, as we can very nearly make both ends meet and keep up the semblance of living in this way, we are unwilling to exercise the additional industry, energy and enterprise which would be required to manage our own places? Or do we claim that labor is so indifferent and unreliable that we are afraid to undertake it? What has brought it to its present condition? Why, verily, I believe that this very system has been more largely instrumental than anything else in destroying the reliability of our labor.

Thousands of log cabins, away up lonely hollows, occupied by a lazy, shiftless set, who secure a precarious living by prowling about hunting (and everything from a chicken to a yearling is legitimate game), fishing, gathering berries and sumac in the Summer, stealing farming utensils, old iron, anything, everything, (nothing is safe,) and doing an occasional day's work, are just so many blots upon our farming system—just so many barriers to our progress and improvement. And just here, Mr. Editor, permit me to digress a little, to say that to my certain knowledge, many of our country merchants are to a large extent responsible for much of the petty pilfering carried on in their neighborhoods. They trade for anything and everything from any and everybody. I know in this county stores located near mills, and you can't send a sack of corn to mill but frequently part of it is traded off at the store. At very many of our country stores they trade for a gallon of corn or wheat, a few bundles of tobacco, a broken plow, presented by a boy six years old, when the merchant should know they did not come by them honestly. Of course merchants who do this, (and many of them are our best and most substantial citizens,) give reasons satisfactory to themselves, but still there are whole neighborhoods which can testify to its practically bad workings and to the evil influence it exerts in the temptations to dishonesty it offers to those naturally too much inclined in that direction. I respectfully protest against merchants being allowed to purchase from minors such things as corn, wheat, oats and tobacco, nor from adults either, when they know they raise nothing of the kind, unless accompanied by an order (to be filed) from some grower or dealer, or making note of time and character of article so as to make some one responsible. But I have written enough on this score for you to see that our crops, fowls, fruits, nor anything else, is safe, even when not called into requisition to supply the demands of hunger.

And now to return to the labor question proper, I repeat that these lonely, isolated cabins away off in the woods, upon the outskirts of large plantations, where the land owner scarcely sees them, and gives them no thought except to see that they are occupied by some one who will cultivate a portion of his land and give an occasional day's work in his own crops in busy seasons, where the tax-gatherer never reaches, and even the modern candidate sometimes fails to find, are retreats for idlers, harbors for rogues, and where they are huddled together in little villages, as is often the case, besides aiding the same causes, are breeders and disseminators of disease, and should be pulled down and burned—every one of them.

I propose to mention, very briefly, only three respects in which this system is obviously hurtful, and perhaps I cannot more forcibly and clearly illustrate the first than by a scrap from my own experience. As previously stated, I have been farming in this way ever since I have been farming at all. Have had every year from two to four tenants, controlling a force of from six to ten good average hands. In the outset, they had no means, no money, no credit. Everything in the way of provisions I furnished, and everything in the way of merchandize was obtained on my order. They were prompt, obedient, respectful, industrious, always ready to execute my plans in their own, and lend a helping hand in my crops if requested. Next year commenced with nearly enough corn and pork to save no money. All gone to square up last year's accounts. Supplies needed obtained as before, and so on until last year, when they, at my suggestion, made bargains with a merchant to open accounts with them, he only stipulating that they should carry an occasional statement from me as to the progress of their crops and their indebtedness to me. After running up pretty large accounts, as much as I and the merchant thought safe, they were decidedly less considerate of my views and wishes, and disposed to take things more into their own hands; still, I rented to them again, and as their crops were larger and sold well, old scores settled up so promptly and completely, on the faith of their remaining with me again they have made accounts with merchants without any reference to me, and have shown but little regard for me in any way. Now, a part of this is just as I would have it. I have tried to impress them with the importance of being prompt and faithful in the discharge of every obligation assumed, and the making of a reputation for themselves. But just so soon as this reputation is secured they are disposed to run as long accounts as possible on it; while by a disregard of the management and system by which it was secured they fail to meet their obligations as before. My experience, then, on this point is just this: that if they have no means of their own and the land owner has to advance everything for them, they will be faithful and obedient, but the land owner carries too much risk for the probable reward, while if they have their own accounts and are under no obligation to the land owner for advances they will be an annoyance and a source of trouble all the year.

In the next place, there are very many men who would prefer to work their own places; who, from the size of their farms, the character of their crops, or for other reasons, think they can make them pay better, or improve their lands more rapidly, and yet find it almost impossible to secure labor by the year with any sort of guaranty that it will remain. That which can be obtained is chiefly single men, who have to stop to help daddy (when the long, hot, busy days of summer come) who is tending a crop of his own on some neighbor's place, so that this system, then, is not only aggravating and unsatisfactory to such as adopt it, but from its character furnishes an excuse for so doing to such as would shirk some of the heaviest burdens of the busiest seasons, and gives an asylum for them while thus idling.

But the last and greatest objection I shall offer now is, that it is a positive and tremendous impediment to the general prosperity of the State. Perhaps this point may be best illustrated, too, from my own experience. While I have rented to from two to four men, controlling a force of from six to ten good average hands, and have given them invariably the very best lands in the cultivated fields, and just as much as they would cultivate properly, I have, with a force of two to three hands, more than quadrupled their crops, and yet outside of their own crops they haven't done on an average \$10 worth of work to the hand per year. Now, Mr. Editor, the point I make is this: that there is land enough in Virginia and labor enough in Virginia to make our barns groan with plenty; to keep our cattle fat and sleek and thrifty; to keep our railroads and canals busy and prosperous carrying our surplus produce to the cities; to keep our mills and factories swarming with busy, happy operatives, and to make all this grand old Commonwealth of ours "blossom as the rose" under a proper management of that labor and a proper cultivation of that land.

I make no suggestions here as to what that system may best be, but leave it for abler pens; nor will I say anything (though so much might be said) in reference to the improvement of our lands under this system; nor anything as to the relative worth of the growing laborers under this and under a more thorough and judicious training; yet these are questions full of discouragement to the thoughtful farmer, and full of significance to the whole country, but I have written too much already.

C. S. T.

Fluvanna county, Va.

NOTE BY THE EDITOR.—We wish our esteemed friend had suggested some remedy for our troubles in the labor line. MACAULAY is always admirable, because he gives you a distinct something to fight, if you differ with him. Our friend complains of the tenant system. What shall take its place? We have any quantity of unproductive land, which we cannot sell, but which keeps on "toting" a respectable tax bill. How is it to be utilized? The State is certainly full enough of laborers. Mr. TINSLEY, of Hanover, gave us his experience; and it showed a profitable result. Is it possible to adapt his method to

all parts of the State? We had hoped that, with an organization as perfect as the Grange, this matter would have been taken up and fully discussed, and some tangible conclusions arrived at. No question certainly is more practical than this. Indiscreetly worked, it is the farmer's great "leak;" and no people can ill afford leaks more than we.

[For the Southern Planter and Farmer.]

COUNTY MARKET FAIRS—AGAIN.

Many of our neighbors are exceedingly enthusiastic on the subject of County Markets, and are making extraordinary efforts to establish them, and we wish them the very best and broadest success, but fear they are engaged in the Herculean effort to compel "water to run up hill."

A writer in the *Rural Messenger* refers to the market system of Great Britain, under the impression that every village is a market town. Such is not the fact. In my own county, Lincoln, the average of villages to the market towns will certainly be twenty, and in many cases many more; I think, if memory rightly serves me, I could enumerate near fifty, that recognize my native place, Sleaford (beautiful Sleaford) as the mart or nearest locality they can most profitably dispose of their productions.

Markets are the normal, legitimate and natural result, or outcome of the wants of producer and consumer. Where the wants and necessities of the consumer are greater than the productive capacity of his immediate locality, he naturally and necessarily strikes out in search of the articles or commodities he needs, and continues his search until he has satisfied himself that he has found out the best place to procure the things he needs on the best and most profitable terms to himself. On the other hand, where the producer finds an insufficiency of consumers in his own immediate locality, he is of necessity compelled to pursue precisely a similar course to that which the necessities of the consumer drives him when he is compelled to hunt up and find supplies. In his turn the producer must prosecute his search till he is satisfied he has found where he can obtain the most remunerative prices for his productions. There can be no forcing of either party out of these their normal and legitimate channels of operation, except by extraordinary and expensive exertion; the law of cause and effect operates universally, and has made no exception in favor of markets.

If we would successfully establish county markets, we must produce just such things as can be consumed by our immediate neighbors, as well as those which parties living at a distance need, and can produce no where else on equally favorable terms; and then our work is accomplished; *buyers will come to us* whenever we can offer them advantages they can find nowhere else, but not otherwise, and no amount of exertion or expenditure will enable us successfully to reverse this natural order of things. So long as we cannot offer

these legitimate inducements to buyers, we must continue to bear our necessary burden in the working out of these results. All natural results are accomplished by silent and unobserved forces ceaselessly operating. The process is slow and tedious, but it cannot be forced. We might as well endeavor to divert the Gulf Stream as to divert these silent and imperceptible forces from their legitimate operation. Why has Chicago sprung so meteor-like into such extravagant proportions? Mainly, the necessities of producer and consumer have compelled her development. And so of Huntington, on the Ohio, a city of yesterday; the action and re-action of producer and consumer on each other has called her forth like a meteor. True, every locality is not and cannot be thus favored, but we all may be much more highly favored than we are.

Our remedy lies in a nutshell; let us break it and pleausurably masticate the kernel. If it be asked, what is the kernel? My answer is, personal exertion, governed and controlled by educated mind. Let us keep posted in relation to all the mighty changes that are continually being precipitated upon us. For instance, as a present case in point: The fact that the practicability of supplying the British market with both beeves and muttons alive, as well as with fresh meats, must advise us, that as we have here a profitable auxiliary to our work, suggesting to us the necessity of gradually making our acres meat-producing instead of grain-producing, and thereby retaining their valuable mineral elements for future improvement. Let others follow our past exhaustive practice if they prefer to do so. It must be ours to husband all these elements we still retain, and by educating ourselves to the skillful use of every improved mechanical contrivance by which we can dispense with hired labor to the utmost point of practicability. Let each reduce his operations within the compass of his resources, and patiently apply every energy in the intelligent prosecution of the end he has proposed to himself, and by mutual co-operation, as for instance in the proposed Bank of Amelia county, be truly help-meet to each other, affording to one another the capacity to carry on our own crops without the help of the commission merchant.

Let the men of each county keep their balances at home to help their neighbors, and presently they can turn the tables on these haughty city banks, as well as be able to market at the best points their own products, and county markets will come in their legitimate order; till when we must be incessant workers, ever mindful that our physical powers are governed by our minds, stored and disciplined by the most solid and practical intelligence.

A BRITISH RESIDENT.

Amelia county, Va.

NOTE BY THE EDITOR.—We indicated some months ago the objections that occurred to our mind in connection with county fairs. We observe, however, that many of our friends are quite content with the results obtained at the Chula Fair; and if it really *works* that ends the argument.

As to banks in the country, we are glad to see them springing up at so many

points. It certainly proves that everybody is not penniless, and that is a great matter of encouragement. We are, in the South, really suffering more from a lack of concentration of capital than from a lack of capital itself. Capital might as well not exist at all as be buried; it is only valuable while it moves. The parable of the Three Stewards exemplifies its economy. The one who hid his lord's money in a napkin was cast out as being *unprofitable*. Moving, capital makes for both lender and borrower.

[For the Southern Planter and Farmer.]

DITCHING.

In my communication to the *Southern Planter and Farmer* the past year on reclaiming our bottom lands, I mentioned the 200 acres of my relative's once productive low-grounds, which, for years, had been almost worthless for cultivation in consequence of the creek having been diverted from its original channel and turned into a ditch on a straight line.

The past Winter, he cut a long and crooked ditch through a large portion of his land, which is now a foot deeper by the mere force of the current than the depth originally cut; consequently, his land is drained, and will now produce as luxuriant crops as in days of yore. The bottom lands on two farms above him are nearly useless for cultivation, in consequence of straightening the creek years ago. Facts and theories can't agree; so let the farmers reclaim their once productive lands by following the dictates of Nature's laws.

The following extract, from a communication of Dr. Gillespie in the *Southern Planter and Farmer* for 1870, speaks for itself, and conveys telling truths on the mode that should govern us in successful ditching our bottom lands:

"You cannot fail to drain land if you will ditch on the foreground principle, making the current of water assist you to deepen the ditch and keep it open. The natural channels of all water-courses were made and kept open by the current of water, and they are generally crooked, because the lower points are not usually in straight lines, and the mere gravity of it makes it seek the lowest ground."

WM. R. HATCHETT.

Charlotte county, Va.

[For the Southern Planter and Farmer.]

BURNING PLANT-BEDS.

As you ask my experience in burning plant-beds with kerosene oil, it affords me pleasure to give it you. As my main plant-beds were so unpromising last Spring, I determined to burn another small bed with kerosene oil, as I thought it a very quick and cheap way. I therefore picked a fine exposure very near a branch (but not a flat), and burnt about one hundred yards. I raked and swept off the patch thoroughly, just as I would to burn with wood. I

then put back a light coat of leaves, and poured on about four gallons of oil, and set it on fire. It made a very quick and hot fire, burning the land tolerable well. I then prepared and sowed the patch in the usual way, chopping in a very heavy dressing of guano, and covered the patch very lightly with wheat straw. From the time the seed came up, which was very soon, as they had been in soak several days, I did not allow the plants to suffer one day for either manure or water—putting on water sometimes twice a day. The seed were put in the ground the 3d of May, and by the 10th of June the bed had in it more plants large enough to plant than I ever saw in any spot of the same size.

Halifax county, Va.

T. W. LEIGH.

[For the Southern Planter and Farmer.]

SEDGE-GRASS.

In the *Planter and Farmer*, some months since, I saw an Essay, read by John M. Preston, Esq., before the Smythe County Farmers' Club, which evolves the all-important question: "How shall we rid our fields of Sedge-Grass." This involves a question of interest to many agriculturists in North Carolina as well as Virginia. As all the methods suggested in the Essay are brought forward in the discussion that followed its reading have been tried and but one of them found effectual, and that one is a very expensive one, viz: ploughing, I feel willing, if it is not out of place, to give an item in regard to the matter from my own knowledge and observation. In 1867, in the county of Granville, it was discovered that near a certain roadside was a green carpet that was actually waving back the stubbly "sedge," and spreading its mantle of nutritious verdure in its stead. It was observed that cattle were inordinately fond of grazing upon this new growth, which, despite their browsing, spread with great rapidity, until to-day that field, which for several years before had bristled with "broom-sedge," now presents as good, beautiful and sedgeless pasturage as one need wish to see, and all without any effort or expense. How this grass was introduced, or where from, no one has yet been able to tell. It does not confine itself to the locality where first seen, but is now to be found scattered for miles around. On the hills and low-grounds, bordering the Robeson, cattle graze upon it from its first appearance until frost, and keep fat and sleek, and the beef is of an excellent quality, while the yield in milk and butter is excelled by no other section, either in quantity or quality.

It will grow on either a rich or poor soil, which it continually improves, at the same time furnishing a healthy and nutritious food for cattle and stock of all kinds. It increases at least a thousand fold every year, and at the same time carries "broom-sedge" before it like an army advancing in phalanx. It grows among the *old field pines*, such as are seen in many sections of North Carolina

and Virginia, to the height of from twelve to eighteen inches, and where the undergrowth is not too dense it will grow in the original forest. The seed are very small, not larger than tobacco seed, and the only way that I know to obtain them easily, is to take a sharp weeding hoe and shave off the surface of the ground which contains the year's deposit of seed, which you will remove and sow down as soon as possible, without the use of either plow or harrow. In this manner I obtained seed in 1874, and it has eradicated the "broom-sedge" where it was sown and continues to spread rapidly. This grass is a trifoliate and known by the name of Japan Clover through this section, and when it shall have broad-casted itself over North Carolina and Virginia, there will be myriads of herds and thousands upon thousands of flocks and fleeces where there are none now.

J. W. WALKER.

Franklin Co., N. C.

[For the Southern Planter and Farmer.]

COUNTY TAXES—A MEMORANDUM FOR THE LEGISLATURE.

At this time, when it is so difficult for a farmer to make a living, it is natural that he should be unwilling to pay more, in the shape of taxes, than is necessary to maintain the honor of the State and carry on the machinery of Government. We see there is no chance of lessening the State tax, but there is great danger of increasing it, owing to having the funding bill and free schools fastened upon us. Now, let us turn to our county taxes; what do we see? We find ourselves paying twice or three times as much as there is any necessity for. In some of the counties the county tax is equal to the State tax; in others it is considerably more. The root of the matter is the undue power given the county judges. They hold the purse strings without proper limitations. Supposing that their intentions are the best, it is not to be expected that a young lawyer should know what would be the best and most economical way of conducting the affairs of a county. He has been chosen for his knowledge of law, not for his business capacity.

I know the reason the power has been given them—it is to protect that part of the State where the negroes have the majority. Now, I propose instead, that the supervisors should make all appropriations of money; the judges having the veto power. By this plan we would have a double protection in this: that if the supervisors should be guilty of extravagant or unnecessary expenditures, the judge could check them. This would protect the counties where the Radicals have the majority. In these times the danger is not that too little will be spent, but too much; and every safe-guard should be thrown around the public purse.

The supervisors are the men who make the levy, and they are the parties who ought to disburse it: 1st, Because the people can hold

them to a strict accountability. 2d, Because they know the wants of the people better, as they represent every section of the county. 3d, Because their interests are identical with tax-payers; and there is nothing truer than the saying that "a fellow feeling makes us wondrous kind." For equally as good reasons the county judges should not disburse the money: 1st, Because they are elected by the Legislature for six years, and are independent of the tax-payers, being accountable to no one but the Legislature. 2d, Suppose they desire to do the best, it is impossible for them to prevent themselves from being imposed upon, as their knowledge of the county must be limited, and they are often the dupes of contractors and their friends, and, on an average, I suppose twice as many bridges are built as there is any necessity for, and 3rd, The judges belong to the office-holding class, and it is natural that their sympathies should be with those who feed at the "Public Crib" and not with the tax-payers. It is certainly contrary to all usage and precedent that any one officer should disburse the public money at his pleasure; and who has the right, as the law now stands, to check them? They can make orders on the county treasurer; whether approved by the supervisors or not, he is compelled to pay. They can increase the salaries of some of the county officers *ad libitum*. I know of instances where some of the county officers have been elected, knowing the emoluments of their office, and the judges, after the election, have raised their salary. Suppose the supervisors had done it, would not the people have said at once, why should you have given away our money unnecessarily? We can, with difficulty, make both ends meet, and still you are increasing the salaries of our county officers who have just displayed a great desire to serve us for the same salaries as their predecessors in office did. We must find men who are not so generous with the public money; but, as things now are, the tax-payers are helpless. I produce this as an example to show how necessary it is that some change should be made. Now, suppose the Legislature should do what I suggest, the people of each county would have no one to blame but themselves, if they allowed their money to be wasted, as the remedy will then be always in their own hands. The tax-payers could always control the election of supervisors, as the pay of the office is so small that no man could afford to buy the office by courting and corrupting the people.

Hanover county, Va.

J. G. T.

NOTE BY THE EDITOR.—If evils in Government are not assailed, it is pretty certain that they never will be cured. This county tax business appears to need a doctor badly. The Legislature of Virginia has no time to waste on resolutions referred to Committees on Federal Relations. Nothing could be much more insignificant than our "Federal Relations" have been since the war. To make resolutions, without a good backing to enforce them, is as absurd as to fulminate a bull against the comet. Can we enforce anything, or prevent anything, where GRANT is concerned; and he is the Government. It is the merest "sound and fury, signifying nothing." We need *all* of our time for *our own* concerns.

We hope the points urged by our correspondent will be heeded by the Legislature. This is not the only quarter in the State where people are complaining of county taxes. Our law-makers, all round, appear to know but one thing: and that is the art of taxing; — sheep-killing dogs *always* excepted.

[For the Southern Planter and Farmer.]

SUGGESTIONS OF PROFESSOR PAGE, OF THE UNIVERSITY, IN CONNECTION WITH THE STATE AGRICULTURAL SOCIETY.

We trust that we fully appreciate the great importance of the Virginia Agricultural Society to the State, and recognize the benefits it has conferred on the people in developing a generous spirit of rivalry in the improvement and exhibition of all the different kinds of stock at our annual Fairs; in the perfection of labor-saving implements; in the diffusion of important general information; and in the promotion of good feeling between the people of all sections of the Commonwealth. We honor the memories of the men who framed its organization, and bear willing testimony to the fidelity of those who have executed its behests in after years.

We heartily admit that the Society has accomplished a good work for the development of the general interests of the State. But we would ask: Has the Society done all that it might have done, with the means at its command, for the development of the great primary practical interests of the State? To what extent has it promoted the increased production of the great tax-paying and money-producing staples of the State? The Agricultural Societies which have proved so eminently useful in other States and countries, have been made so by giving the strictest attention and inquiry to the best methods of cultivating and rearing the great primary staple products, according as they may be best adapted to a given section, variety of soil and climate.

The great primary staples of Virginia are tobacco, corn, wheat, grasses and stock, with various subsidiary products more or less adapted to each section. One or the other of these staples is the tax-paying and money-producing product of each section of our State.

I repeat: What has been done by the State Agricultural Society to show the people of these different sections of the State what may be done to improve their lands and increase the average yield of the most important staple crops they cultivate? It is true that considerable amounts have been expended, annually, in giving premiums for improved farm implements and labor-saving machines. Much has also been expended in giving premiums to the stock-raisers in the sections of the State in which the lands are peculiarly adapted to that staple interest. We have been informed that nearly fifty thousand dollars have been expended in premiums since the war by the Society; but has that benefited the State to any great extent, or even the stock-raisers themselves?

Are they not urged, by every incentive of rivalry and remuneration, to keep their stock up to the highest point of purity of blood, greatest weight, least bone, and earliest maturity? Are they not, indeed, restricted to stock-raising by the conditions of their soil and climate as much even as the Tidewater man is to his wheat and corn, and the

Southsider is to his tobacco staple? In this view of the subject, it might appear that we were drawing a sharp line of discrimination against our friends, the stock-raisers of the Southwest, the Valley and Northern Piedmont counties. Far from it. We would not be understood as objecting, in the least, to having their fine stock exhibited at our Fairs, or to the awarding them honorable premiums for excellence in breed, in condition and pedigree; but we insist that the increased average production of our great staple products is of paramount importance, and calls for the strictest inquiry on the part of the Society. We insist that competition shall be fostered between the sections and the people thereof, in all their primary staple products. It is well known that there are many successful farmers in every section of Virginia. To what is their success attributable? Would it not be well that these men should be made known, and their systems held up as an example to others? All real success in agriculture is the result of continuous and systematic effort in the improvement of land and in the exercise of correct principles of domestic economy. It is sometimes not so much the success of one man, but the success of the system handed down from father to son, in which the real merit exists. What agency is better adapted to bring out and spread before the people this information than the State Agricultural Society?

History teaches that successful agriculture results from experience simply, or is acquired through the united efforts of experience and science. Science facilitates, elucidates and accelerates all the processes of agriculture, but cannot convey any certain information without the aid and concurrence of practical experience.

To this end, the State Society should do all in its power to encourage communications from individuals distinguished as good managers in all the different districts of the State (an object far more worthy than some particular success with an occasional crop). It should do more than this. It should make every effort to obtain reliable records or calendars of farm work; the nature and character of the work; how it has been distributed between laborers, teams and machines every day and month in the year. In the words of old Marshall: "Agriculture must ever remain imperfect, while it is suffered to languish in memory and die with the practitioner; *record* only can perpetuate the art, and *system* alone render the science comprehensive." In addition to this, it should raise a committee to divide the State into districts, according to special adaptation of soil and climate to certain staple crops; and, in each district, it should appoint a committee of intelligent members to visit all parts of the same at stated periods, and to make succinct reports, in writing, of the different practices of farming by the people, including the bad as well as the good, that those who follow the bad may read and see their faulty practice on the same page which offers better examples for their adoption. These reports should be presented to the Society at its annual meetings, to be read, discussed and published for the benefit of the members of the Society all over the

State, in order to present to them every good practice used by the best cultivators in each district for imitation, and every bad practice for avoidance.

If agriculture is ever to rest upon a truly scientific basis, regulated by just and accurately drawn principles, it must be done by the united efforts of the man of experience and the man of science. The farmer, by accurate observation and experiment, and immediate registering in writing the facts of the several operations throughout the year, will render to the man of science the practice of individuals. The man of science will then have the necessary material to work upon, to collate the facts, to verify the statements and correct errors; and, by the application of the principles of induction, to deduce laws and principles of value.

On the other hand, it will be urged that it is impracticable to carry out anything like the scheme proposed; that quite a large number of farmers are incompetent to observe and record their farm work, and would not undertake it. Now, this is all the greater reason that the work should be taken in hand by the State Society. The Society, by furnishing blank forms with special indications of procedure, and then by visiting committees, can do more to encourage the farmers in this work, as well as in general improvement, than any other agency that could be devised. It may be urged, also, that the practice of an individual, however successful, is generally limited to some particular branch of farm management on some certain soil or situation, and, therefore, no great amount of useful knowledge can be expected by such a course. We contend, that while it is true in the main that certain districts of our State are better adapted to the production of certain staples than others, yet there is scarcely more than a limited area of the State which may not be made profitable by a thorough system of mixed husbandry. We believe that a limited number of cattle, horses and sheep can be reared in many parts of Tidewater in as great perfection and as profitably as in any other district of the State; that tobacco, as in the county of Caroline, can be made profitable in the more sheltered parts of the Tidewater; that the South-side farmer, by means of mixed husbandry and green crops, may have his fields covered with grasses and a fair quota of sheep, cattle and hogs.

We are, therefore, zealously affected to impress our views, believing that were the knowledge of the individuals who excel in the several branches of agriculture, or the knowledge of the ablest farmers in the best cultivated districts of the State, collected and made known, the greatest improvement would be seen in the farming of the whole State, not only in increasing the average production of staple crops, but in the establishment of systems of mixed husbandry, upon which all real prosperity of our people must sooner or later depend. In reading the annals of English agriculture, you will find that it was to the "journeys" of Arthur Young through all the counties of England (at the close of the last century), making known all the different practices pursued by individuals, in his writ-

ings, that the world was so much indebted for the spread of agricultural knowledge. He furnished the data for the future researches of Sir Humphrey Davy, and thus laid the foundation of modern agricultural chemistry. Marshall, by his journeys and observations, made known to the people of the Eastern counties of England the good as well as the bad practices of the Middle and Western districts, and changed the system of agriculture in the Eastern counties from exclusively grain growing to the more certain systems of mixed husbandry, which has ever since obtained; and the present condition of English agriculture is, perhaps, to a greater extent, due to the celebrated "Reports on English Agriculture, by James Caird, Esq., the *Times* Commissioner," than to the labors even of the Royal Agricultural Societies. You will remember, perhaps, that in the beginning of 1850, the low prices of agricultural produce in England, and the serious complaints of the land-owners and farmers, indicated the necessity of some inquiry into the actual state of agriculture in the principal counties of England. In order to ascertain the extent and true cause of distress, the *London Times* newspaper came forward and invited James Caird, Esq., to undertake the difficult task of making this inquiry—*difficult*, on account of the excited state of the agricultural mind at the time. Before undertaking the work, Caird consulted Sir Robert Peel, who, in reply, made the following statement of the case, which seems so applicable to our condition, that I quote his words at length: "I advise the acceptance of the offer conveyed in the enclosed. There is so little intercommunication between agriculturists in different parts of the country, and such a general unwillingness, on the part of ordinary farmers, to travel beyond the bounds of their own parish, that much good might, I think, be done by presenting to them, in attractive form, the observations of practical men on the different systems of farming and the different usages which prevail in various parts of the country. You will find large tracts of good land in certain counties, with good roads, easy access to market and a moist climate, that remain pretty nearly in a state of nature, undrained, badly fenced and wretchedly farmed. Nothing has been hitherto successful in awakening the proprietors to a sense of their own interests. I cannot help thinking that a dispassionate and temperate contrast between the productiveness of their properties and that of others, in less favored positions, might reconcile them and induce them to look out for more certain aid in good farming." Mr. Caird, on receiving this advice, undertook the work, and, in the preface to the series of letters published in book-form in 1852, says: "With the view of rendering the letters permanently useful, not merely as exhibiting the state of agriculture throughout England, of which, since Arthur Young's tours, eighty years ago, they afford only a general account, I was careful to note good examples of farming in the several counties, and have described them in minute detail for the information of farmers in the same and other counties. I have also, in many cases, noticed objectionable practices, in order to reprobate

them. Many eminent, practical men have already acknowledged the benefit they have received by combining with their own the practice of some particular department of good farmers in other counties thus brought under their notice. As the object was to obtain facts; and the field was so extensive, it was thought that the clearest and most methodical description of English agriculture would be got by the separate examination of each county. All the matter contained in the letters was obtained by personal inquiry and inspection, principally by walking or riding carefully over individual farms in different districts of each county, accompanied by the farmers, and by access to the best and most trustworthy sources of local information. In this way the Southern, Eastern, Western, Midland and Northern counties of England were all examined; and an amount of accurate and important information was derived, which is admitted by all public men, as well as farmers, to have accomplished the most beneficial results to every department of agriculture."

We are fully persuaded that some such scheme as this, inaugurated by the State Agricultural Society, and executed by competent men, would redound more to the improvement of the agriculture of the State, and to bringing out to the world the value of our soil, climate and productions, than any other course that could be adopted.

It is not to the interest of one, but to the interest of all the different sections of the State, that the great primary staple products and their most perfect development, should be made the subject of inquiry and investigation by the State Agricultural Society; and, in presenting the scheme thus imperfectly unfolded, we wish it understood that we are not wedded to it. What we desire, is to have some scheme developed by which the State Agricultural Society may be made a power or force in the State, not to develop one, but each and every staple product, in each and every district in the State; and to accomplish this end, we urge all of the life and other members of the Society, from every section of the State, to come out and be present at the meeting to be held in Richmond on the second Wednesday in February, that we may all work together to put the Society upon an efficient and substantial basis, so that it may bring forth greater fruits than it has heretofore borne.

University of Virginia.

JOHN R. PAGE.

NOTE BY THE EDITOR.—We say amen to what the Professor urges; and beg our friends to look over again what we had to submit in the same direction in the number for March, 1876. We are vain enough to believe that *all* the points we made there are not wholly valueless.

Dr. Arnold hit it when he made his remark about boys that professed their sentimental admiration of virtue: "I have seen enough of boys that love God. Commend me now to boys that not only love God, but hate the devil."

[For the Southern Planter and Farmer.]

GERMAN MILLET—ITS VALUE AS A FORAGE CROP.

In obedience to repeated solicitations to contribute something for your valuable paper, I have concluded to give the results of my experiment with millet. The repeated failure to get a stand of clover—timothy seldom making a remunerative crop on upland—induced me to seek for something else as a forage crop; and while on a short excursion to the green-sward region of Kentucky, in the fall of 1875, (I will not use that misnomer, blue grass, being a different variety of poa) I procured information which led me to purchase a few bushels of the German and English millet. The first I sowed the middle of May on about six acres, one bushel to the acre, half creek flat, half upland—all of which had been cultivated in tobacco the previous year. It was ready to be mowed for hay in ninety days. The last I sowed on upland adjoining, the same quantity to the acre, and it was ready for mowing in sixty days. I cut this in full bloom. It made a fair crop; much less than the German did. When the German was ready for mowing, that is in full bloom, there were continuous rains and damp, cloudy weather, which induced me to let it stand until the seed were matured. Though not tested by the scales, I am sure there were at least four tons to the acre, producing 225 bushels of seed. The straw, after threshing, I took good care of, and am feeding it to horses, colts, work-oxen, calves and sheep, which all partake of with as much avidity as the nicest hay or fodder, and are doing well on it.

General Cheatham, near Nashville, Tenn., and other intelligent farmers of the South and Southwest, commend highly this variety of millet, and I think every farmer should grow some. When cut at the proper time for forage, and well cured, it will make valuable food for stock of all kinds, and such a large amount can be gotten from a small area. I much prefer it to the English. The Hungarian I have not tried, but am told that it is not equal to the German. This and the English, however, maturing in 60 days, may sometimes be sowed when too late for the German. The seeds of the English and German are very similar, hence persons should be very cautious and purchase only from strictly reliable dealers. The German being in greater demand and worth more, might induce some to substitute the English for it.

All who saw the immense heavy crop growing were greatly pleased with it, and many will make a trial of it. Though I have a large quantity of seed, more than I shall sow, I will have no trouble in disposing of it. County farmers are already engaging of me.

I would suggest that farmers put a part of their good corn land in German millet instead of wheat and oats, neither of which are remunerative crops—the last having been a failure for several years. Land which produced five bushels of corn to the acre, by the application of a suitable fertilizer, I am confident, if well prepared, would produce a crop of German millet worth forty dollars per acre. Where

one wishes to save seed, I understand it is best to be sown in drills, and a less quantity to the acre. The amount raised by broadcast sowing from six acres, at the price which they can be sold, shows the value of the crop for this purpose if not wanted for forage of the best quality.

JOHN R. WOODS.

Albemarle county, Va.

P. S.—The millet being a very heavy growth, especially that on the creek flats, was considerably tangled and prostrated by heavy rains, one of which was a severe storm. The machine could not cut it clean, so there was quite a loss; but for this, the crop of seed would have amounted to at least two hundred and forty bushels, which, at \$1.50 per bushel, would be highly remunerative, independent of the straw, which all of my stock partake of with such a relish and eat so heartily. When a large amount of nourishment has been extracted by the formation and maturing of the seed, we can readily understand how desirable it would be, when cut at the proper time, for hay.

I have this moment seen a good practical farmer, who resided at one time near Huntsville, Alabama. He speaks in high terms of the German millet; says that stock of every kind were kept in fine condition by its use. Our people, following the example of the enlightened nations of Europe, must raise a greater variety of products, such as are found to be adapted to our soil and climate for the rearing and fattening of stock, whose digestive apparatus, if well supplied with nourishing food, are the farmer's best chemical machine for making an always reliable and permanent fertilizer. Until this long established truth is acted upon, agriculture must languish and be unremunerative. Bought or purely chemical fertilizers can be resorted to as good adjuvants for increasing the products grown for stock, but the farmer who relies on them as his main basis for all of his crops and the improvement of the soil, will find his net income, after paying for labor and fertilizers, exceedingly short and easily if not pleasantly counted.

J. R. W.

NOTE BY THE EDITOR.—Dr. Woods is like some sinners we have heard Brother NOLLEY speak about—"hard to move;" but we are thankful to see that he is moved at last, and trust he will not subside with this. His experience is so great, and in so many directions of service to his brother farmers, that he cannot take his ease, as seductive as that long pipe of his is. His results with German millet are worth repeating; and we have no doubt not a few of our readers will join us in this judgment, and go and do likewise.

A man is a poor manager who will *substitute* chemical manures for those produced on his place. He should use them as a *supplement*; and if he loves his land as it loves him, he will have call for all of *both* he can possibly command.

Von Moltke goes to bed regularly at 10 P. M., and never works on Sunday except in time of war. Quite religiously, the old battle drummer goes to church every Sabbath at the head of his employés, and occupies the rest of the day reading edifying books.

[For the Southern Planter and Farmer.]

PLANT BEDS—MR. BAKER'S EXPERIENCE.

Moisture, heat and fertility are the three necessary prerequisites to a vigorous and early growth of tobacco plants. The fly is the only unmanageable difficulty in the way of success, resisting, as they sometimes do, every remedy used to destroy them. It is, therefore, best to avoid them, if we can. This, I think, can be done by locating beds in the forest. In proof of security from the fly in this way, I will here state, that no plant bed last year, within my observation or knowledge, located in the forest, and distant as far as seventy-five to one hundred yards from the border, suffered any material damage from the ravages of the fly. Whilst all beds in the open fields, and on the borders of the woods, were not ruined or injured, still the injury was confined to such. The fact that we cannot decide in advance which of the beds thus located will be attacked by the fly, nor to what extent they may be injured by them, is another reason why we should keep to the woods, pine thickets, and branches, so as to have some kind of forest or bushes as a barrier to the fly. I think the original forest is the best in which to locate beds.

In thus locating them, rich alluvial bottoms, where the soil will retain moisture during the day, and not sob in wet weather, and well covered with leaves, should be selected, so as to avoid the necessity for, and also the labor and expense of burning, which is *now known to be unnecessary except to destroy grass seed*. Southern or warm places should be selected, if combining the foregoing qualities. Soil with capacity to retain moisture during dry weather is sometimes found on hill sides, and depressions on the hill sides, and wherever found, is adapted to plants, whether very fertile or not, because it can easily be made rich by the application of fertilizers and stable manure. Previous to the year 1876 I had generally located my beds in the woods, and sowed them without burning, and they always escaped the fly, and never failed to produce an abundance of plants in time, but they were not always large enough to set by the 25th of May, the growth being sometimes retarded for want of moisture—a fault arising from not locating them right. In 1876 I selected a very warm place on the border of the woods, and parallel with a running branch to supply water if needed, and sowed the bed in January, hoping to raise plants earlier.

The first sowing were up the 1st of March, and were all soon killed by a hard freeze, my second by a flood, and my last were destroyed by the fly. The consequence was, that I was able to get only plants enough in time to raise one-third of my usual crop of tobacco. Had my experience then have been what it now is, I could and would have saved this loss. I have gone back to the woods, and there I will remain, unless, perchance, I get some unexpected additional light on the subject. In preparing beds, all of the leaves should first be re-

moved, leaving the soil clean, which should be dug up with the grubbing hoes to the depth of two or three inches; the roots and grubs should then be removed from the surface, when the fertilizer should be applied at the rate of one thousand to two thousand pounds per acre, depending on the natural richness of the soil, and well hoed in, and the surface thoroughly pulverized by rake and hoe. The bed should be prepared when the soil is in proper order—that is, not too wet. December is generally a good time to prepare them, the purpose being to have all the beds in readiness to sow by or before the middle of February, when they should be sowed and covered deep with smooth brush.

After sowing the bed prepared and guanoed in the manner above stated, and before covering with brush, it is important to apply stable manure to the surface, first thoroughly refining the manure, and distributing by hand from baskets a light covering. While planters have no suitable places in the woods, and are forced to resort to localities in the open fields, and on branches infested with grass seed, making it necessary to burn the beds, I would suggest the same method of preparation, and the same application of fertilizer and stable manure, and covering with brush. I think two tablespoonfuls of seed to one hundred square yards is about the right quantity for the first sowing, and one and a half for the last sowing, the last to be made sometime between the 15th of March and the 10th of April. The shade trees around woods beds should always be cut, so as to admit fully the rays of the sun upon the bed to accelerate the growth and toughen the plants. All plant beds should be ditched and trenched around, so as to effectually prevent sobbing and flooding. With proper attention giving to coating and picking beds, prepared as above stated, at the right time, I think all planters would be successful in raising an abundant supply. As will be seen, I have presented no theory about fly killing. I have none to offer. I know of no remedy that will destroy them.

As far as I know, they have successfully resisted every expedient used to destroy them, thriving equally well in kerosene oil, soot, guano, and every other nauseous remedy used to extirpate them. I have been badly whipped by them once, and have no disposition to renew the fight. It is said by those who have made the trial, that a plank fence, two feet high, and made flea proof, will keep them out. This is an expensive expedient; better resort to it, however, when necessary, than fail to raise plants. I have advised a much heavier application of fertilizers to the beds than has been usual heretofore. I am sure the quantity recommended is not too much, as a vigorous growth of plants will effectually resist the fly, if not attacked before the plants attain the size of ten cent pieces, and quarters of dollars.

J. M. BAKER.

Louisa county, Va.

NOTE BY THE EDITOR.—MR. BAKER lives in the region of “sweet sun-cured” tobacco, and no man, in the range of our acquaintance, knows better how to

produce it of fine quality. No growers of tobacco, in the whole world, occupy a position so absolutely unassailable as those in the strip of country running from Spotsylvania to Gloucester—as nowhere else can such tobacco be produced—no crop, indeed, our folks there have grown, for several years past, has been equal to the demand. Let them then see to it that such a magnificent opportunity be not neglected. Fortune must be wooed; and she ever favors the brave.

MANURE—URINARY SECRETIONS.

[Notes by the *Scientific Farmer* from Prof. Goessman's Investigations.]

Normal urinary secretions are of a very complex nature, depending on the peculiar organization of animals. That of carnivorous animals is clear, light colored, and of an acid reaction; that of the herbivorous is always turbid and of an alkaline reaction. The relative quantity of their characteristic constituents depends chiefly on the kind and amount of food consumed, the time when collected, and the occupation of the individual under observation.

Normal, fresh human urine resembles in the main that of the carnivora; slightly colored, clear and of an acid reaction. Its principal mineral constituents are, besides the chlorides of the alkalines and some phosphates, acid phosphate of soda, and smaller quantities of phosphate of lime and magnesia. The acid phosphate causes, especially, the acid reaction of the urine, aided by free carbonic acid usually present.

The most prominent of the organic constituents are urea and uric acid; both contain nitrogen, and soon after ejection from the bladder are transformed, by a rapid fermentation, into water, carbonic acid, and ammonia. During this fermentation the urine loses its acid reaction and becomes alkaline, and turns turbid, which latter change is due to a separation of lime and magnesia, as phosphates and carbonates, for in this form they are almost insoluble in a liquid containing free ammonia. They appear first as a flocculent mass, and finally change to a crystalline sediment.

Sometimes these substances separate, *i. e.*, precipitate in the bladder, and form calculi, in consequence of alterations like the above, due to unnatural retention, and resulting frequently in well-known injurious consequences. Recent analyses in the College laboratory of calculi from a human bladder, gave the following constituents in 100 parts:

Moisture, organic and volatile matter.....	41.08
Ash constituents.....	58.88
Nitrogen in organic matter.....	2.84
The ash contained:	
Phosphoric acid.....	28.02
Lime.....	21.47
Magnesia.....	7.82
Carbonic acid.....	1.50

The above were evidently present in the calculi in the following forms:

Neutral phosphate of lime.....	30.80
Ammonia-magnesium phosphates.....	56.88
Carbonate of lime.....	8.54
Organic matter and moisture.....	3.78

J. F. WINCHESTER, *Analyst*.

Fresh urine from a cow fed with from one to two pounds of Indian meal, and one peck of turnips per day and all the hay wanted, gave the composition found in the table below; and also fresh urine from a horse. These samples were taken simply for illustration of the distribution of the mineral constituents of the food in the excretions, though no particular pains had been taken with the feeding. One hundred parts of the fresh urine contained of mineral constituents:

	COW.	HORSE.
Potash.....	1.75	1.07
Soda	0.05	0.04
Lime	0.07	0.13
Magnesia	0.04	0.19
Phosphoric acid.....	0.01	0.004
Silica.....	not det.	0.002
Chlorine and sulphuric acid	not determined.	

W. P. BROOKS, J. F. WINCHESTER, *Analysts.*

One hundred parts of the several foods contain:

	HAY.	INDIAN MEAL.	TURNIPS.
Total mineral matter.....	6.66	1.23	0.75
Potash.....	1.71	0.30	0.33
Soda	0.47	0.08	0.02
Lime	0.77	0.08	0.03
Magnesia	0.33	0.03	0.18
Phosphoric acid.....	0.41	1.10	0.55
Sulphuric acid....	0.34	0.11	0.01
Silica	1.97	0.02	0.03

We notice a striking difference in comparing the relative proportions of the mineral constituents of the food and the urine. The potash found its way to the urine, while it is plain that the larger portion of the lime, magnesia and phosphoric acid went to the dung. The absence of phosphoric acid from the urine disproves the claim some make of its being a complete fertilizer.

Careful saving of both solids and liquids, can make barnyard manure most efficient as a complete manure. To permit the urine to run to waste from a stable, means a loss of almost the entire amount of potash, and the larger portion of the nitrogen in the food consumed.

The kind of food chiefly controls the composition of the urine. It has been shown that those plants which yield an ash from which water abstracts the soluble phosphates of potash and soda, are the same which, when consumed as food, produces a urine which contains phosphoric acid and gives an acid reaction. These foods and food plants are all kinds of grain or seeds, as wheat, rye, oats, barley, corn, all oil-bearing seeds, beans, peas, etc., also flour and bread, besides all kinds of meats. These are the food of human beings and of carnivorous animals, which we previously showed to excrete an acid urine.

On the other hand, these vegetable substances which produce an ash, from which water does not abstract compounds containing phosphoric acid, are also those which when fed produce a urine free from phosphoric acid, and on account of the presence of the carbonates of potash and soda are of an alkaline reaction. To this class belong

hay, clover, potatoes, all kinds of root and foliage crops, as well as all kinds of straw and stem parts of plants. And these are the food of herbivorous animals under ordinary circumstances, and phosphoric acid only enters into their urine when grains have formed a considerable portion of their food.

The presence of phosphoric acid in the urine of the carnivora and of man, is due to the fact of there being comparatively little lime and magnesia in their food with which the large amount of phosphoric acid can unite to form insoluble combinations; while in the food of the herbivorous animals there is a large proportion of lime and magnesia, with which the amount of phosphoric acid readily combines in the presence of alkaline secretions in the intestines during digestion, and so becoming insoluble does not pass into the bladder, but appears in the dung.

HUBER'S CONCLUSIONS CONCERNING BEESWAX.

We get the following from that excellent journal, the *Popular Science Monthly*, and it is very interesting :

Huber sums up the conclusions of all his experiments upon wax :

1. That the wax comes from honey.
2. That the honey is also a food of the first necessity for bees.
3. That flowers do not always contain honey as has been imagined; that this secretion is subject to the variations of the atmosphere, and that the days when it is abundant are very rare in our climate.
4. That it is the saccharine part of the honey which enables the bees to produce wax.
5. That raw sugar yields more wax than honey, or refined sugar.
6. That the dust of the stamina does not contain the principles of wax.
7. That this dust is not the food of the adult bees, and they do not collect it for themselves.
8. That the pollen affords the only aliment which is proper for the young, but that this substance must undergo a peculiar elaboration in the stomach of the bees, to be converted into an aliment which is always appropriated to their sex, their age, and their wants; since the best microscopes do not show the particles of pollen or their covering in the liquid prepared by the working bees.

The bees when wax is needed, gorge themselves with honey, and hang suspended in festoons or curtains for about twenty-four hours. During this repose, which Reaumur supposed was for rest and recuperation, the honey is digested and the wax makes its appearance under the over-lapping rings of the abdomen.

These scales a worker disengages by means of the pinchers on its legs, and seizing the scales in its mouth. We remarked, says Huber, that with its claws it turned the wax in every necessary direction; that the edge of the scale was immediately broken down, and

the fragments, having been accumulated in the hollow of the mandibles, issued forth like a very narrow ribbon, impregnated with a frothy liquid by the tongue. These particles of wax—thus rendered adhesive, ductile and opaque, by working in the mouth—were applied to the vault of the hive. A wall of wax was begun in an inverted position, depending from the top of the hive, by this bee, which is called the founder-bee. When its store of wax is exhausted, another bee follows and proceeds in the same way, guided by the work of its predecessor. When the wall was nearly an inch in length, and about two-thirds as high as the depth of an ordinary cell, the bees began excavating a cell on one side, and two on the other; these cells were so arranged that the partition walls between the two cells were exactly opposite the middle of the one.

Bees, Huber tells us, do no co-operative work; the only thing that looks like co-operation is the unanimity with which the whole swarm waits till one bee has laid the foundation. Each bee follows the suggestion of the one which preceded it. As the work progresses, it becomes possible for a larger and larger number to join in and it is only the foundation-cells which are excavated; the others are built in their permanent form.

The much praised exactness of the bee is shown to be over-estimated; but the variations which we find in the hive are much more extraordinary than the uniformity. These are always due to something wonderfully like the intelligence of man, in its power of conforming to circumstances.

[For the Southern Planter and Farmer.]

FRUITS OF TIDEWATER VIRGINIA.

The October and December issues of your journal contains two articles on "Fruits of Virginia," by an old friend, who calls on me to say something on the subject of fruit-growing in this section.

The report of Mr. Davis, chairman of the State Fruit Committee (of which I have the honor to be a member), I have not seen, and for my friend, the Doctor's information, may state, that the members of the committee send their written reports of fruit profitable for market and family use, *in their section*, from which the chairman makes up his general report to the United States Pomological Society. Of the justice of the strictures made on this report by "Fruit Raiser," I am not prepared to express an opinion, except to say, that for many years past I have found Mr. Davis exceedingly energetic in his efforts to procure and introduce fruits of especial value for market or family use in all sections of our State.

"Fruit Raiser" says, "If Mr. Davis's report was intended only as information, in a *general way*, to the American Pomological Society, it would do; but if intended to instruct the fruit raisers of Virginia, it will not do." Need I remind my friend that this report was intended entirely as information for the Society, and certainly not to

instruct fruit growers of our three great sections of Virginia, the Valley and Mountain country, Piedmont, and Tidewater.

As a supplement to "Fruit Raisers" article on "Fruits of Virginia," I may be permitted some brief observations on climate, soils, and varieties of fruit in our State. From the seacoast and rivers of this section to Winchester, Virginia, we have three distinct fruit belts, soils and climates, gradually running one into the other, and while certain varieties of apples, pears, grapes and other fruits, as instance, Winesap apple, Concord grape, Wilson A strawberry, and Bartlett pear, succeed as to tree and fruit in each section, their value for market purposes, and time of ripening, is very different.

It is scarcely necessary for me to say, that our section is *par excellence* the home of the early fruits and truck crops of all kinds, and the fall climate here is, in general, too *moist* and warm to mature the grape, so as to make first rate wine, and Winter apples, so highly esteemed in upper Virginia, here ripen too early, drop from the trees, and will not keep. Just here, I may correct an error of "Fruit Raiser" in reference to the "Winesap apple" in Nansemond, which he inadvertently drew from my remarks in "Orchard Management" in 1869. The Winesap is here a fall apple—one of our *very best for family use and cider*—but *we can't sell it*. There were at least fifty barrels in my orchard this Fall, most of which were gathered from the ground and went into cider or to the hogs.

Certain Fall seasons, when the wind leaves our apples on the trees until cool weather, we can hand-pick the Winesap, and sundry others, and keep the Winesap until February. No one who has paid much attention to this subject, doubts the fact that the slow ripening of Fall fruits contributes much to their keeping qualities, and a dry, cool, dark equable temperature, as near the freezing point as possible, without being frozen, are the essential conditions of good keeping. It must not be inferred from the above that we have no good keeping apples in this section. While most of them are inferior in quality to the Pippin family, Winesap and Greening, and other esteemed Winter sorts elsewhere, yet they are good family apples, keeping, with extra care, until March.

I agree with "Fruit Raiser" in one thing most heartily—there should be a close line drawn between fruits for market and fruits for family use, and local market of the surplus. In this section, only pie apples, shipped green in July and August to the North, have in former years been profitable. Times appear to be changing, or rather the seasons, so that for two or three years past other sections north of us have supplied the market, and our early apples have not been worth shipping.

In reference to varieties, and following the order of early Summer, Fall and Winter apples, I may state the following as varieties most esteemed for this section :

May apple, small, white, sub-acid, tender skin, only profitable for market near water transportation. Tree indifferent bearer, and short-lived.

June family. This embraces Red or Nottoway June, a large red apple, formerly much grown; variety nearly extinct, superseded by yellow June (known as Sinclair's), which was extensively planted for many years. Striped June, similar in taste to Nottoway, and failing, is of little value. June Sweetening, a good bearer, more hardy and healthy than yellow June, which is short lived, and much subject to insect borers in the limbs.

Early Ripe is very similar in tree and fruit to yellow June, rather larger, later, and a better shipping apple.

Orange Pippin, of New Jersey, belongs to the family of white pie apples, is a handsome golden fruit when ripe, and ships well. Nine boxes, from top grafted trees, brought this past summer a higher price in Boston than either of other kinds shipped at the same time.

Early Hagloe is a white early apple grown near Norfolk with profit.

Young America is a new, large, white apple, not well tested, originated in Isle of Wight county. It has been shipped as early as July 4th.

Red Astrachan is a poor bearer here.

The Horse Apple, season August, is one of our best apples for market and family use; it hangs long on the tree, and is, perhaps, the best brandy and drying apple we have. The tree is tardy in bearing, and lives to a great age, and grows to a large size on rich land, where *only* it should be planted.

Maiden's Blush spots and drops in August, and is of little value.

Gravenstein and Bell Flower are growing in my orchard; bear pretty well; they ripen at a time when there is no market for green apples, and go into cider, with a dozen other sorts. Nearly all our orchards contain Summer Cheese, and a number of seedlings of local repute.

Winesap has already been noticed as one of our best Fall apples for family use and cider; is a sure bearer; yielding large crops; not often profitable for market.

Nansemond Beauty is an apple of very handsome appearance, originating here, not, perhaps, equal in quality to Winesap, but excels it in beauty, and is the best keeping apple we have, except the large and small Vine and Made Moschile, which are inferior in quality.

Hare's Red Winter. The past Fall, Nurseryman Hare, a gentleman of color, presented me with a few dozen very large red apples, larger than the Beauty, which he originated also, or first brought to notice, with the request that I would baptize it with a name, and test its keeping qualities. The flavor of this apple is exquisite; one is reminded of the pine apple in eating it. Several specimens of this fruit, with the Beauty, are lying at this time in my writing desk, and show not the least sign of decay. They were blown from the trees in a storm in October, when not fully colored and matured.

I am reminded by the pages written that I have trespassed already too long on your valuable space, and must defer noticing sundry points in the Doctor's articles for the future.

Isle of Wight county, Va.

NANSEMOND.

[For the Southern Planter and Farmer.]

PIPPINS AND GREENINGS.

In an article in the December number of the *Planter*, your correspondent, Mr. Massie, speaks of Rhode Island Greening and Green Newtown Pippin Apples as "one and the same." I think he is mistaken, and I will tell you what I know about these apples. Forty years ago, Mr. Samuel Bailie brought both these apples to Abingdon from the nursery of the late William Prince, Long Island, planting a tree of each sort on his grounds, within one hundred feet of each other, in good garden soil. Twenty years ago, when I first knew them, they were both in full bearing. The Newtown Pippin was a medium sized tree only, and bore very sparingly; the tree has been dead some years. The Greening was a much larger tree, bearing abundant crops. The growth of the trees are entirely different. The Pippin, a slow, slender growth, with rough bark, even when young, while the Greening is strong, with thrifty shoots, and a low spreading head. The tree still stands to-day, a large, fine old fellow, bearing abundant crops, and a great temptation to the boys and "civil rights," as its branches overhang the garden fence. Nor is the fruit at all alike; the Pippin, a greenish, white-fleshed apple, tender, crisp, with a delicious flavor, a good keeper, and one of the best; the Greening, a rich, yellow-fleshed apple, with an aromatic, sprightly, sub-acid flavor, the skin becoming yellow when fully ripe—in size, flavor and appearance, all that Mr. Fitz claims and Mr. Massie admits. The quality of the Pippin is better, but not so showy, and it is a very poor bearer. As to the keeping qualities of the Greening, that depends upon the time of gathering; have seen them kept until February, if gathered before fully ripe; if not gathered until ripe they decay very soon. So with the Milam; if gathered and put up the middle of September, it will keep until March; if not gathered until October, will not keep longer than Christmas.

A farmer in this county gathers his green apples the last of August, and puts them in an outhouse loft, where he can have a circulation of air, letting them remain until cold weather, when he stores them in the cellar, and in this way keeps them until February; while, if permitted to hang on the tree till last of September, he would have none to gather. If an apple hangs on the tree until fully ripe, its mission then is to decay. Some being very tender, decay much sooner than others, but that is the tendency of all fruits. If you want to keep them, gather before they mature; the ripening process is then arrested and keeping secured much longer.

Washington county, Va.

GARDNER BAILIE.

For the market gardener, capital is very important when the proprietor knows how to use it—an art which is learned only by experience.

[For the Southern Planter and Farmer.]

EXPERIENCE VS. THEORY—KEEPING APPLES, POTATOES, &c.

APPLES.—As labor is money, and money is very scarce, I submit the following practical suggestions :

The cheapest and best way to secure *winter* apples is to hand-pick and barrel from the trees ; shake the barrels well and press down hard with heading, so as to get the barrel as full as possible ; then head up at once and leave the barrels in the shade of the trees or some other cool place. A few planks placed over them will protect the barrels from the rains. Then put them in the barn and keep them as you do your flour. Freezing and thawing will make but little change, unless they thaw in the light or in the air. Should a barrel be opened when frozen, throw a bag over it, so as to keep them dark. I keep my supply of apples in this way, until they are consumed late in the Spring. The barrels of apples and those of flour are in the same open barn exposed to the same changes of temperature. It is *heat* and not cold that causes apples to decay. Another mode : Shake the apples from the trees and mound them on top of the ground, as you would Irish potatoes in heaps of from three to six bushels. Let those with small specks of decay go with the sound ; cover with straw and then with earth, so as to exclude the air and keep them cool.

IRISH POTATOES—*To keep them* : The old way of mounding on the surface requires too much labor, and is attended with risk. Excessive cold, or heat either, destroys the potato. A pit dug into the side of a hill from six to eight feet wide, as deep as the slope of hill will admit of, and as long as you may require, to contain 500 to 1,000 bushels—the top to be either secured with posts and heavy timbers and covered with dirt, or with shingled roof, and the potatoes well covered with straw, is greatly preferable to the mound. Have the door at the lower end of the pit and a place at the upper end through which the potatoes can be dumped into the pit from the wagon. This place should be made of lattice work to enable the dirt to fall from the potatoes. When the weather becomes cool, close up place and door and keep the cold from the potatoes. They can be taken out of this pit for shipment or use on any mild day during the winter in any quantity desired.

SWEET POTATOES—*How to dig* : With the two-horse plow ; pass the plow between the rows to collect the vines ; have these carried out of the way ; then side down, and put in the plow deep and turn them all out ; they will come up in bunches or hills, and with bottom ends projecting out of the furrow slice. They are with the plow saved in half the time, and with scarcely any of them either cut or broken. With a pronged or potato hoe they are quickly taken out of the loose ground and placed in the heaping row. *How to keep them* : Directly the digging and sorting is over, take them up in hampers and put them away. Formerly I lost about one half of my

potatoes. Recently I lost none. I have a pit in the middle of a servant's house, with the sides bricked up, to keep out mice. They are taken from the field and poured into the pit; when full they are leveled off, and a few inches of DRY sand thrown over them; the floor is nailed down and they are safe. In this way I have potatoes usually until May. I did not see one decayed potato taken from this pit last year. And when the sand was taken out in October to refill with another crop, several potatoes were found that had been there a year, and as sound as those dug on that day. I am sure, from experience, that we handle potatoes and apples too tenderly, and hence too laboriously; that their preservation or decay depends mainly on the temperature and the exclusion of the atmosphere and the light.

With a soil and climate such as Tidewater Virginia possesses, there is no reason why every family in the country should not always have (in their season) sweet and Irish potatoes and apples; and in a few years should not supply the whole South, and even our Northern friends, who have so long supplied us with apples and Irish potatoes. Farmers should every year plant some Wine-sap apple trees. And if they do not raise tobacco, grow Irish potatoes, and let us learn to handle them economically. *It is the handling that absorbs the profits.*

•JOHN WASHINGTON.

Caroline county, Va.

P. S.—It is a very cold day, and I have about ended my day's work, and can't go out. I give some of its moments to the *Planter* in the above. My apples are all as hard as ice and rattle in the barrels like rocks. They will stay so until warm weather, and thaw in the barrels and be as plump and rosy as if no Jack Frost or cold had touched them. I accidentally discovered this some years ago, and since then never trouble myself about keeping apples. Only place them in the DARK, and they will keep themselves. I mention this to a Virginia farmer and he is amazed: What! a frozen apple does not rot when it thaws? Our Northern brethren know all about it, but are slow to tell us. They frequently leave the barrels in the orchard all winter, to pass through all the mutations of temperature, only keeping out the water from the barrels.

J. W.

NOTE BY THE EDITOR.—It is rather a humiliating thing for one to go into a store, in our Southern country, and ask for apples, and get for answer (as we so constantly do): "We expect some, every day now, from the North" (or West, as the case may be). With a dearth of green food in the winter, there is no substitute so wholesome as apples; and why every man in the country should not raise enough, at least, for the use of his own family, the winter through, is most extraordinary. We hope he will; and heed Col. WASHINGTON's directions about keeping them securely. All these things help to make up the whole comprehended by the expression *self-sustaining*. We can know no freedom until we become that.

Stock Department.

CONDUCTED BY DR. M. G. ELLZEY, AGRICULTURAL AND MECHANICAL COLLEGE, BLACKSBURG, VIRGINIA.

BREEDING BACK.

Reversion to an original form, even when a breed of animals has long been established, is one of those difficulties which no skill or forethought on the part of the breeder is able to prevent. This phenomenon exhibits itself under a great variety of circumstances, and often suddenly and most unexpectedly. Through how many generations the new and modified breed must descend before this liability to breed back disappears, cannot be determined. It can scarcely be questioned that the greater the number of generations which have bred true to the form and characteristics of the breed without variation, the less liability to variation will exist, and this fact gives to recorded pedigrees whatever value they possess. Yet those who have attempted to perpetuate the desirable qualities of any breed, by breeding from pedigree alone, have notoriously failed. It appears, indeed, to be certain that the number of generations carefully and truly bred has far less to do with breeding back, and other forms of variation, than the permanency of the conditions of life. Like those fabled lines of the mathematician, which forever approach each other, yet never meet, lapse of time continually diminishes, yet never overcomes the tendency to reversion. Whatever disturbs the balance of physiological forces operating in the system, causes variation, especially reversion, to the original type of the ancestors.

Pigeons, which have received at the hands of fanciers the most extreme care, and possessing the most intensely artificial character, have suddenly reverted to the form and plumage of the common wild rock pigeon. Darwin, who has greatly multiplied facts of this kind, appears to be convinced that the dun color, and back and leg stripes therewith associated, in so many horses, in all countries, are evidences of reversion to an ancestral form no longer known. Such cases often occur apparently spontaneously, yet they are far more frequently associated with sudden and extreme disturbance of the conditions of life, powerfully affecting the balance of physiological forces. Nothing immediately connected with the reproductive process is so potential in producing these results, as crossing very dissimilar breeds, which manifestly powerfully disturbs the balance of physiological forces in the offspring. Darwin has piled up a great mass of facts bearing upon this point, and, apparently, himself believes that no lapse of time can avail to obliterate the tendency to reversion under changed conditions of life. Yet he, and they who think with him, upon their strange interpretation of the facts of evolution, do not seem to think it strange that nowhere, at no time, has any man observed any tendency in modern species, under any changes in the conditions of life, to revert to any ancient and extinct forms. When, where, and under what circumstances has any man seen a man (and brother), however degraded, show the remotest tendency to revert to any of the distinguishing characters of the most man-like apes? Yet the story is, man evolved from the man-like apes. If he evolved, why don't he involute sometimes? Why is it that poor old crazy Nebuchadnezzar, when he "stept down and out" to eat grass with the beasts of the field, affords the solitary instance in man, since Adam, of a tendency to resume all fours?

Prof. Marsh digs up somewhere in Sitting Bull's country, certain remains of a three-toed horse (so-called), and immediately thereupon, Prof. Huxley proceeds incontinently utterly to cast out God from the universe He has made. Yet nobody has seen a modern one-toed horse, showing any tendency to grow three toes.

Truly, man is himself a strange animal. We have already adverted to the fact that a violent cross powerfully promotes the tendency to reversion. It can scarcely be doubted that all crossing tends to produce variation, and especially reversion. As long as we breed in line, as they call it now, no skill is required; nothing is to be done except to bring together male and female of the same blood. The only knowledge required, is sufficient familiarity with the Herd Books and Stud Books to know that the pedigree is right. But when fresh blood is to be infused, when an outcross must be made, very extensive knowledge of the individual characteristics and qualities of different families or strains is requisite, the best judgment is necessary, and the intuitive skill and nice perception of the artist is essential to success. Even fortified by the possession of all these, unbiased, and unblinded by prejudice, every breeder must admit every cross is to some extent a step in the dark. Let us endeavor to look a little more closely into this matter. In the transmission of the predominant characteristics of the breed, three individuals are to be considered as immediately concerned—the male and female parent, and the offspring. First, the dam may impress upon the ovum tendencies of development sufficiently powerful to control the organization of the future individual. Second, the male may overcome the tendency to special development, derived from the dam when he furnishes the spermatozoa to fertilize the ovum and assume control of the organization. Third, the ovum, as originally matured by the dam, may possess an individual tendency independent of the mother sufficiently powerful to control its own organization and development, or when the two initial organizing forces of sire and dam meet in the perfected and fertilized ovum, they may so far neutralize each other as to suffer the individual, inherent organic force of the ovum, to become from that moment prepotent in determining the special form of its own future development. Fourth, the individual tendencies of the three individuals, sire, dam and fertilized germ, may so counterbalance and neutralize each other, that the control may be surrendered to some one of a long line of ancestors, the tendencies of whose peculiar organization have been latent but not extinct in many generations of descendants. This will constitute breeding back. Or, lastly, all these forces may so balance each other that some extraneous, perhaps accidental force, may give direction to the development, and then we shall have the appearance of a new character, which may disappear with the next generation; may become less distinct with each generation, and gradually disappear, or may, on the other hand, become a fixed and permanent character of the breed. There appears to be with some an abiding impression that the young animal can have no characters except those strictly derived from its parents. The individuality of the germ or of the fertilized germ seems to be overlooked, yet, it must undoubtedly be taken into account if we are to reach clear views of this wonderful subject. Every one has noticed individual peculiarities. It is certain there are no two animals in the whole world precisely alike. We frequently speak of congenital peculiarities, by which we mean peculiarities existing from birth, but it is certain that nearly all such peculiarities existed in utero, and most of them, unquestionably, trace back to the individuality of the fertilized germ. That the fœtus may be prepotent over both its parents in the matter of its own organization and development, will

doubtless be a new thought to some, yet we are fully convinced that it is often so. That a fertilized germ in utero is as much an individual as the full grown animal in the zenith of life, cannot be disproved. That the germ, in the first moment of its existence, often possesses the inherent individual power to refuse to develop in the similitude of its parents, and to resume the likeness of ancestors more or less remote, or to assume characteristics new to the breed, is a belief with which we are fully impressed. If this be true, it will not be difficult to comprehend that when parents differ widely—that is to say, when we cross the breed, the opposite characters of the two parents neutralize the forces of development derived from both—the individual character of the fertilized germ becomes predominant, and it resumes the likeness of remote ancestors. It is a matter of common observation that a violent cross is apt to be followed by reversion, or some other wide departure from the type of both parents, and this, notwithstanding the fact that both parents had descended through many generations without variation, which must be regarded as an evidence that the characters of the breed were strongly fixed. Descent through many generations may possess little or no power to fix character; the fact of the descent of any character through many generations without variation, is indisputable evidence that it is strongly fixed in the breed. It is this evidence which gives value to pedigrees, as we have before remarked, and from this point of view, we may discover how imperfect the pedigree is which gives only the name and color of an animal, and the mere names of his ancestors, leaving the rest to descend by tradition, or simply to be taken for granted. If some system of measurements could be adopted and made part of the pedigree, it would be a great advantage. The measurement in inches around the chest, over the heart, taken in connexion with the height of the animal, and the length of his fore-leg, and this compared with the length of his body, and weight in fair condition, would but slightly lengthen the record, and would give an insight into the character of the individual to which the present record affords no clue whatever.

Among all the causes which lead to reversion of an improved breed to the original type of the unimproved ancestors, the two most important are crossing and an irregular and unsufficient food supply.

Some writers have gone so far as to attribute all variation to crossing, but this not only leaves out of view entirely all individual character, but is quite contrary to common experience; whereas, it leaves us without explanation of the sudden or slow acquirement of new characters.

CAPONS.

The operation of castration has been practiced upon fowls from the earliest times. The capon is nearly, or quite, double the cock in weight, and surpasses any other fowl in the flavor and delicacy of its flesh. The castrated birds are used by the French to carry the broods of young chicks, so that the hen can the sooner go to laying again, and these eunuchs are said to take great pride in their charge, and to take better care of the brood than the natural mother would have done. Some capons, of the large Buchas county breed, are sold in Philadelphia, weighing, when 18 months old and well fattened, from 15 to 20 pounds. The larger the breed of the fowls the better for this purpose. The testes of the cock lie close to the backbone, behind the intestines, and nearly opposite the last ribs. They may be reached through external incisions, made either between the last two ribs, extending from near the backbone, one and half inches in length, or by a lune-

shaped cut of similar extent athwart the belly, three-quarters of an inch above the vent. The intestines being pushed up towards the breastbone in either case by means of the handle of a spoon, or an instrument made for the purpose, the testes will be brought into view, and may be removed by proper instruments, or by means of the finger nail. To prepare the bird for operation, he should be put up at night, and kept without food or water the next day and following night, when he may be operated upon before breakfast that day, and allowed to run. The old English mode of operating, and that most practiced in Italy, is to place the bird in the lap of the operator, with the head towards his body, the wings clasped behind the back of the fowl, and the legs drawn backwards and clasped between the operator's knees. The cut is made as described, above the vent, and the finger inserted, the testes felt for and detached with the nail, and withdrawn on the point of the finger.

The Chinese place the bird on the ground, on his left side, and standing behind him, hold down the wings with one foot, and the legs drawn backwards with the other, and cut through between the last two ribs. They have a slight piece of bamboo cane, six inches long, to each end of which is attached a silver hook, by a short string. The elastic force of this bow serves to hold the wound open; then the operator inserts a cannula, armed with a loop of the coarse fibre, from the outside of the cocoon, which loop encircles and saws off first the lower and then the upper testicle, which are then fished out with a sort of spoon.

Near Philadelphia, where a great deal of caponizing is done, they have invented an operating table, about 18 inches broad, by 30 long and 30 high. In the left hand corner of this table, three and a half inches from the end, and six and a half inches from the side, cut a slit in a diagonal direction, half an inch wide, one and three-quarter inches long, and through this pass a loop of strong, soft padded list, to be attached beneath the table to a lever of wood, attached by a screw, upon which it turns to the left hand leg of the table at the far side, and resting on a pin in the leg at the rear side, except when in use. This strap and lever are intended to fasten the wings, by passing around their butts, near the body, the loop in the strap, and drawing it down by a four or five pound weight attached to the end of the lever, after the manner of a pair of steelyards. To confine the legs, make a lever of wood about one inch thick, by two and a half wide, and about 32 inches long. At the butt end fasten a hinge, and at the small end where it projects beyond the table, a four or five pound weight—have the under side well padded. Through the free end of the hinge pass a screw bolt, provided with a tap—beginning about 12 inches from the left hand end of the table, and about three and a half inches from the side. Make a line of holes to extend along the near side of the table, in a straight line to within eight or ten inches or less of the right hand end; through one of these holes, at a proper distance from the wing band for the length of the fowl, pass the hinge bolt and screw on the tap, thus securing the lever to the table. To secure the bird for operation, turn his head to the left and his back to the operator; pass the wing band around the wings near the body, let down the lever and put down the weight. Draw the legs backwards, and stretch them out so as to be under the lever, with the upper one nearest the operator; let down the lever on the legs and put on the weight; leave the head and neck free. Pluck off the feathers from a space one and a half inches square, just in front of the hip and below the backbone, and put the feathers under a stone or piece of board to keep from blowing away. Draw the skin out of the way, so that when left free again, the cut through the skin will be in a different place from that, though the flesh an

sound skin will cover the deep wound. Make a cut from near the backbone, one and a half inches or more in length, and downwards along the border of the thigh, taking care not to cut either the intestines or the legs, but simply to cut through the skin. Then make a corresponding cut through the tissues beneath, and separating the last two ribs. Lastly, very carefully divide the thin membrane, covering the intestines, which push forward out of the way with a spoon handle or other suitable implement, and the testes being brought into view deep in the cavity near the backbone, may be removed, the lower one first, afterwards the upper ones. Sew up the external wound, put some sweet oil on the place, stick on a bunch of the feathers, preserved for that purpose, and let him go, when he will run about and eat and do well. Of course any sort of fowl may be operated upon, but it pays better with large breeds of hens. Light Brahmas would make noble capons. Caponed turkeys are far better and bigger than gobblers. From the fact that the operation is generally performed in some countries by women and girls, some of whom, not above twelve years of age, are reported to be very expert, it would seem that it might be generally understood and practiced with profit.

EDITORIAL NOTE TO MR. TATE, ON GENERAL-PURPOSE HORSE.

We are pleased to hear from our correspondent, and the fact that he, to some extent, dissents from our views, does not diminish that pleasure. Our attitude towards our readers is this: "We speak as to wise men; judge by what we say." It is our opinion that our correspondent over-estimates the difficulty of breeding a good general purpose horse. We have seen very many horses good for the wagon, plow, saddle or light harness. We have, at this time, five horses selected from the neighborhood for the farm of the Virginia Agricultural and Mechanical College, and four out of the five will fill that bill perfectly, nor is there anything wrong with the temper of any of them; a woman may drive any of them, or ride them with safety. These four horses will pull to the Depot any load that can be safely put on a four-horse wagon, and return empty, at six miles an hour. The four biggest Norman studs in France cannot do any more than this. If we are to breed special horses for every purpose, which of these breeds shall the farmer keep? Which breed shall the poor man select who wants a horse for the use of his family, and can afford to keep but one? We, ourselves, are in exactly that position at this time; what shall we do? What is the advice of our friends? We do not want a race-horse; we do not (if we know ourself, and we think we do) want a nineteen-hands high, ton-and-a-half heavy Norman stud; we do not want a 2:20 trotter, or pacer; we do not want a donkey; we do not want a dromedary; we do not want a mule—wouldn't have one if anybody would give it to us; we do not want a perfect saddle horse which cannot be used, without injury, for any other purpose, nor even be ridden by any other person without detriment. We want, sometimes, to take a jaunt in the saddle, sometimes to take our little family out in a carry-all, sometimes to send a boy an errand, sometimes to plow the garden, sometimes to do hauling with the cart; sometimes we want a boy to drive us to the Depot, seven and a half miles in one hour, to catch the train; which, of the distinct breeds, fills that bill? That's what we call a general-purpose horse. Does our friend mean to say we cannot find any such horse? There are four such in the State, forty rods hence, picked up without difficulty in this neighborhood. We have owned such; we have bred such, and expect to do it again. We have seen thousands of such horses in all parts of the country.

We see no difficulty in breeding horses suited to all the purposes of the farm and of the family. Gentlemen of wealth and leisure can have what they please. If they wish to keep separate horses for morning and evening mounts and turn-outs, as ball-room belles change their dresses, they can do so. Poor people, such as most farmers, can't afford it. We have said that a horse, fifteen and a half hands high, weighing, in good condition, twelve hundred pounds, is the model of a general-purpose horse, and, by that model, we are perfectly willing that our horse-sense should be judged. Let him be bred right, and he will be quick, active, docile, intelligent, hardy, handsome and long-lived. Let any man, Democrat or Radical, hire a colored person and put him to work, at any sort of work, behind one of our friend's "big, dull, slow horses that cannot be excited," and count what he has paid out in money and feed for man and team, and then count the loads hauled, or measure the work done, and, when he goes to foot up that transaction on his books, if he does not find himself out of pocket, we are no Solomon. Let us add, in conclusion, that these columns are open to the expression of all honest opinion. We guarantee to every man a fair field. Grant may drink whiskey, Zach Chandler may cuss, Jim Blaine may play possum, Sheridan may call folks names, Ruger may prop Chamberlain with bayonets, but no honest man, having anything to say, shall be counted out of these columns.

AUGUSTA Co., VA., December 11th, 1876.

Editor Southern Planter and Farmer :

The October number of this Journal contained an able and interesting editorial article on the "general-purpose" horse. This expression "general-purpose," while not very precise, or specific, and used by different persons to describe, horses of widely variant qualities and style, yet conveys, with sufficient clearness an idea which seems to be prevailing to a large extent in this country—and that is, that by care and skill in breeding, a race of horses can be produced adapted to the many and diverse purposes for which that animal is employed. This suggests the question, Can any ability and skill in the art or science of breeding, however eminent, produce a race of horses adapted to the multitudinous demands made upon that animal by the necessities and pleasures of civilized life? I am utterly unable to comprehend how the skill and ability of the breeder can combine in the same animal all the qualities required for the proper performance of the numerous and diverse duties demanded of the horse. For some purposes a quick, active, light, high-spirited horse, compressing in small compass, great muscular power and endurance, is necessary. For other purposes we require a slow, patient, dull horse, that cannot be *fretted*, and which combines heavy weight with great strength. The one we want capable of moving with ease six or ten miles an hour; the other we rarely want to exceed three miles an hour. Now is it possible to combine these incompatible qualities in the same animal?

In breeding, as you approximate the one standard, you must to the same degree depart from the other. The extent of your success in securing a horse well adapted to the plough, will be just the measure of your failure to get one well fitted for the saddle. The qualities required by the many and various employments of the horse, are so irreconcilably different, that it seems to me a sheer impossibility by any skill in breeding, to combine them in the person of the same animal.

Macbeth, when excusing the hot haste with which he had dispatched the sleeping chamberlains of the murdered Duncan, exclaims :

"Who can be wise, amazed, temperate and furious,
Loyal and neutral, in a moment? No man."

And is it not as apposite to ask, Can any horse, at the same time, be heavy and light, slow and quick, dull and high-spirited? And must not the response be, "no horse." Hence, the attempt to produce a race of horses equally well suited to every purpose can only end, it seems to me, in disastrous failure, aggravating the evils under which we already labor in having horses ill-suited to the

purposes for which we are compelled to use them; the legitimate consequence, however, of this random and purposeless breeding, which has so extensively characterized our State.

In order to success in the improvement of our horses, no less than in other affairs, the person undertaking it must have some well defined and specific end in view; must set up a distinct and clearly marked goal, to be attained by judicious and properly directed efforts. A high degree of success cannot reward that random and purposeless course which proposes to itself such a variform aim as the production of a horse equally suited for the plough, or pleasure carriage, the wagon or saddle.

It seems to me that the only practical method of improving our horses is, to discard this utopian idea of a "general-purpose horse," and breed with a view to specific and particular ends. If the breeder wants a horse for the plough or wagon, let him keep that single purpose constantly in view, directing his efforts to that end alone, "without variableness or shadow of turning." Look at the perfection, for beef purposes, to which the short-horn cattle have been brought. Does any one suppose that if the breeders of these cattle had undertaken to combine high-dairy and working qualities, with the beef producing, any such success would have rewarded their labors? Why, then, should we expect a different law to prevail in reference to the horse? The ideal of the "general-purpose" horse presented in the editorial article referred to above, if possessing the quickness, action and spirit necessary to qualify him for the saddle or driving, would thereby be unfitted for the plough or farm-wagon. Hitch him to either, and the slow, heavy and toilsome task would so chafe and fret him as to demonstrate conclusively, at least to his driver, his unfitness for that purpose. In the horse, in order to his comfortable, as well as profitable use, his moral qualities are as essential as his physical. Hence, when you secure a horse endowed with sufficient spirit and enthusiasm to qualify him for the saddle or driving, you are almost certain to have a horse too "fractious" for farm purposes. Not taking into consideration horses bred exclusively for the course, either as trotters or racers, for all practical purposes we need but two classes of horses; the one adapted to quick, light draft, (including, of course, the saddle horse); the other to heavy, slow draft. And if those who breed horses would direct their efforts persistently and intelligently to the end of improving either one, or both of these classes, a few generations would, I feel certain, exhibit a market advance.

In discriminate and pernicious crossing has done much to produce that non-descript class of horses so prevalent in our country, and so ill-suited to any purpose. And the readiest method of substituting them by better horses is for those engaged in breeding to direct their attention to the production either of large, strong, hardy and docile horses, suited alone to the plough or wagon, or else of quick, active, high-spirited animals for the saddle or driving; but eschewing sedulously the idea of combining the two purposes in the same animal.

WM. M. TATE.

[For the Southern Planter and Farmer.]

GEN. MEEM'S IMPORTED COTSWOLDS.

At your request I send by the same mail with this, a notice of the Cotswold Sheep, purchased by me this Fall, and published in the *Shenandoah Valley*, one of my county papers. Since then I have made a purchase of ten more ewes and another imported yearling buck, weighing three hundred pounds, and bred by Mr. Russell Swanwick, of England, exhibited at the Centennial, and was one of a pen of premium bucks at that Exhibition. It is my intention to supply, to a small extent, any Virginia demand for thoroughbred Cotswold sheep. I start with two yearling bucks, equal to any I have ever seen, and forty thoroughbred ewes, nearly all imported and bred by Messrs. Robert Garne and Swanwick, of England.

In this connection, let me say that it gave me great pleasure to read the admirable articles on sheep husbandry in your January

number, by Col. Ware and Mr. Croxton. I only wish every farmer in Virginia could be induced to raise a flock for mutton and wool. There is scarcely any part of the State not suited to the purpose, and but few farmers who do not control land enough to raise a flock of twenty or more. It would be surprising to see the profits this little flock will return, the benefit the land will receive by their grazing, and the delight it will give any one to handle a flock of well shaped, well-conditioned sheep of his own raising; and there is no great expense involved. A thoroughbred buck crossed on native ewes is all that is necessary to commence with. Attention, care and protection from dogs by watchfulness, and having them near the house, will insure success.

I cannot let this opportunity pass without alluding to the anathemas that have been hurled against the Legislature for many years by the entire press of the State for not passing a general dog-tax law. If Dr. Ellzey will only turn that rifled battery of his upon the farmers of the State for not raising a flock of well-bred sheep, and not be wasting his ammunition upon the body of intelligent gentlemen who yearly winter in Richmond at public expense, far more good will be accomplished. This has been so much the case, that many believe the success of sheep husbandry depends upon the passage of such a law. It would be gratifying to know you would be paid the value of your sheep, yet it will not reduce the number of dogs or stop their running at large. The success of the undertaking depends *entirely* upon the watchful care, and the judgment used in rearing and breeding. If the same intelligence used by most farmers in the cultivation of a crop of tobacco, corn or wheat, is given in raising a flock of sheep, the profits will be far greater for the capital and labor employed.

In my judgment, a thoroughbred buck, at a cost of fifty dollars, will pay for himself the first year, if only twenty ewes are served. Many experienced breeders say he can be used upon his own offspring for two generations. If, then, it is the purpose to rear a flock by breeding from all the ewe lambs, no parsimony should be used in procuring the best bred bucks.

I desire to call the attention of sheep breeders to another branch of this business. There are many breeding lambs from fine rams for the butcher, to be sold at three or four months old. I have been doing this for several years, tempted by the high prices offered for my half-bred lambs, and I am satisfied it was a mistake: we deprive ourselves of a large amount of revenue. The English generally keep their mutton lambs until twelve months old, when they are sheared and sold. Take a flock of lambs that are worth four dollars at four months old, the same flock, if well taken care of and not permitted to get poor, will bring in the Spring, at twelve months old, eight dollars, and, if extra care and feed are given them, will bring ten. What will pay better? In the one case, one hundred per cent. made, and in the other one hundred and fifty. What a loss of capital in our anxiety to realize. If one half the lambs raised for the butcher

were kept twelve months, what an increase of revenue. This year I am practicing what I preach, having refused all tempting offers for my lambs. Have a flock of 122, the product of 105 ewes and two thoroughbred rams. In thirty years' experience in breeding stock, I have had nothing to give me as much pleasure as watching the rapid development of this flock, and if the judgment of an experienced wool dealer is not at fault, the returns from the wool will surprise you. It is my purpose to keep an account of the grain consumed, and next Spring will give you a debit and credit account of the wool and mutton sold. This will be a practical exhibit, which, I hope, will be of service.

GILBERT S. MEEM.

Shenandoah county, Va.

NOTE BY THE EDITOR.—The following is the article referred to by Gen. Meem :

FINE STOCK.—Gen. G. S. Meem, we learn, has recently received an imported Cotswold Buck, bred by Mr. Russell Swanwick, on the Royal Agricultural College Farm in England, and by him sent over to the Exhibition at the Centennial; also nineteen imported ewes and ten of their produce, which were purchased of Mr. T. S. Cooper, of Coopersburg, Pennsylvania. The buck and five ewes were exhibited at the Fair in Winchester last week, and took all the prizes in their class. The buck was much admired for his superior form, length and fineness of fleece. The buck cost \$150.

We are glad to see such interest taken in supplying our section of country with the best grades and kinds of stock. This purchase and introduction of stock so superior and valuable by Mr. Meem, who is so well calculated to manage it, will afford farmers generally an opportunity, at a reasonable expense, to supply themselves with this valuable stock. The man who spends his time and means in introducing superior breeds into the country, should be regarded as a benefactor in the community.

We are very much obliged to the General for his contribution. If the unjust Judge gave way, because of much importunity, the Legislature should; at any rate, we propose to keep up the fire till the last shot in the locker is exhausted. It is the very absence of some law regulating the keeping of dogs that has prevented our people from embarking in sheep husbandry. We would be glad if Col. ROBERT T. PRESTON, of Montgomery, would give his experience in this line. The vote-controlling curs dissipated his flock so rapidly and so effectually that he has had no heart for sheep-growing since. But, why single out any one particular name; they are legion. Let us have a change for the better.

PERIOD OF GESTATION OF CATTLE.

The period of gestation of cattle, says Mr. Finley Dun, varies somewhat in the various breeds, and is several days longer in Short-horns, Herefords, and other large races, than in Ayrshires, Alderneys and Devons. From his experience, West Highlanders and Polled Angus calve somewhat earlier than Short-horns. From Earl Spencer's observations on 764 cows, he obtained as the average length of gestation, between 234 and 285 days. The shortest period recorded, in which a live calf was produced, was 220 days; the longest was 313—the produce a cow calf. Mr. Teisser's observation on upwards of 500 cows of different breeds, yielded an average of 282 days between the date of service and parturition.

Mr. Dun has chronicled, for some years, the gestation of a herd of Short-horn cows. He has 563 entries on which he can implicitly rely, and he finds that the average period is about 281 days; 235 bull calves have been carried 281 days; 238 heifer calves have been carried 280 days. The shortest period was 248 days; the gestation of twins born small and bare of hair. Another calf from a stirk was carried 253 days. The longest period was 308 days—the product a white bull calf, from a seventeen year old cow.

Several cows went regularly several days over time, whilst others as regularly failed to carry their progeny the usual period, one cow constantly calving ten or twelve days short of the average, the calves being apparently sound and healthy. There is always more irregularity with first than with subsequent gestations, and twins are rarely carried out their full time. There is a strong hereditary tendency in some families to multiply births, and Mr. Dun has one family at least with this predisposition. In 473 births he has had sixteen cases of twins. From the Short-horn herd book he extracted 1,137 births before he made up twenty lots of twins.—*Canada Farmer*.

HANDLING BULLS.

In answer to Mr. Page, of Tennessee, as to the mode of handling bulls, I would say that I have been handling bulls for the past sixteen years, and this is my way: A young bull should always be broke to the halter when a calf, and when at one year should have a ring put in his nose. The ring should be a copper one, two and one-half inches in size from out to out. Never put a steel ring in a bull's nose. In putting the rings in, a good steel punch, long and tapering, will do to punch the hole. It should be back and well up in the nose, so it will not bother the mouth. In breaking a bull to lead by the nose, you should have a strap with a snap on one end, so as to snap it in the ring. The beginner must not think a bull will lead at first by the ring, but must use the head halter in connection with the strap in the ring; pull gently on the ring until he gets used to it. A bull should never run with other cattle, but should have a good pound to himself, and in order to have a gentle bull, he should be handled every day. They should not be allowed to serve a cow more than twice at any one time. As to feed, I would say that anything that they will eat heartily is good for them; a bull kept for service should be kept in good growing order, and never allowed to get poor. L. H. AIKMAN.

Dana, Ind.

GAPES IN FOWLS.—Spirits of turpentine may be used to advantage in this complaint, which is caused by small worms that infest the windpipe of fowls. Remove the feather part from the wing-feather of a fowl, excepting a small portion near the tip, and dip it in the turpentine, and pass it down the chicken's throat into the windpipe.

Editorial—Farm and Garden.

In Virginia, and further South, much of the Spring work can be done in February, particularly if the weather should be mild, which all know has not been the case thus far. Should it be, the farmer had better go to work, as he has had to lose so much time on account of the bad Winter, and prepare his lands, and haul out his manure, and get everything in readiness for an active Spring and Summer campaign. Every wise and skillful General, before he opens his plans and develops his strategy, has been deeply engaged in studying the topography of the country in which he has to operate, making himself fully acquainted with his own resources and those of the enemy, making his calculations, as far as may be, for unexpected events and untoward circumstances, getting his implements of war, his artillery, his muskets, his rifles, his ammunition—all the ordinances of war—in readiness for the earnest, and life and death struggle which is before him. So must the farmer do. His is no easy work, as some imagine, and his position is not unlike that of the General. If he expects to make a successful year's work of it, he must now get everything in readiness. There is no time now for play, and feasts, and imitations of the old Romans, who, this month, held a great feast called *Febrea* (from which the month takes its name) in commemoration of the *manes* of their deceased friends and relations. The farmer, like the General, must lay, carefully, his plans, get his implements in order for the important campaign which lies before him, collect his ordinances (his manures), provide, as far as may be, against unpropitious seasons; too much wet, by draining; too much dry weather, by deep plowing—against early frost, by early planting—against destructive insects, by watching and destroying them early in the season—against the most serious enemy of the farmer, weeds and grass, by timely use of the plow and the vigorous plying of the hoe. Unfortunately, many think the farmer's avocation is a very easy and simple one; that he has not much else to do than to plant and to reap, and that any simpleton, and every man, who does not know how to do anything else, may be a farmer. A great mistake: for farming requires brains, and thought, and judgment, and skill, and industry, and constant attention; and it is all the better if a good education is thrown into the scale.

SEEDING WINTER OATS.—This is the best month for seeding Winter oats, if not done in the Fall, which is much the best time; for it is rarely we can get a heavy crop of oats if seeded in the Spring. Chose the first open weather occurring after the 10th or 15th, and go to work, putting in one and a half bushels, unless the land is very thin, then one bushel. The seeding needs to be rather thicker now, because the oat has very little chance to tiller in the Spring. Drag them in well, covering all the seed. If the land is very light and the weather cold, then they may be plowed in shallow, with a one-horse plow. The coming up is more uncertain, if plowed in, from the danger of getting them too deep, but then they are less apt to be killed by the freezes when in sprout. The Winter oat is undoubtedly more hardy than the Spring oat, and we believe the Spring oat should not be sown at all, and the Winter oat substituted, no matter when sown. The seed is apt to be foul, and we should endeavor to get the cleanest seed which can be procured.

SOWING CLOVER AND ORCHARD GRASS.—The latter part of this month is the best time for sowing clover, or wheat, or rye, or oats seeded in the Fall, if not sown then. We think Fall the best time for seeding clover, along with rye, and Winter oats, if they are seeded early, as they should be. Wheat is usually put in too late for clover to get well rooted before cold weather. Orchard grass should be sown along with the clover. (Timothy should be seeded in the Fall.) The drag should be run over the wheat, or rye, or oats, the clover and orchard grass then seeded, and then the roller applied. The drag and roller will be an advantage to these crops, and will pay for the labor of putting in the grass seeds by the benefit the wheat, &c., will derive from the operation. The old plan of waiting for the land to "crack" by the drying of the ground after freezing, is uncertain, and should be abandoned. It is also advisable to sow along with the clover and orchard grass, tall meadow oat grass, which comes in along with them, and makes about as good hay as the orchard grass. It grows taller than the orchard grass, and will, each of them, aid in keeping clover from tumbling on rich ground. The tall meadow oat grass, we think, is not as much used as it should be. It will grow on poorer land than orchard grass or clover. No one grass, as a general rule, should be seeded alone, for one grass never occupies fully the whole ground, and the crop of hay is always heavier where several grasses are grown together; the food one grass requires is not always needed by another, and thus the different grasses, feeding on different elements, do not antagonize one another in their growth, but tend to make available all the plant food in the land. Experience has proved that the grasses seeded in the Spring, or at any other time, will do better without any other crop on the land; and where grass is the great object, it will pay to omit wheat and rye and oats. Sow one gallon clover seed and one bushel of each orchard and tall meadow oat grass. If clover alone, sow one and a half gallons.

IRISH POTATOES may be safely planted this month. The ground had better have been manured broadcast, and plowed in the Fall, the manure turned under with the single plow. We notice that the farmers in Scotland plow the manure in even the previous Summer; for instance, as soon as the oat or wheat crops are gotten off the land and the crop secured, manure is applied and turned under for the potato crop the next season. (Transactions of the Highland and Agricultural Society of Scotland.) If manure is scarce, it may well be applied in the furrows, and the potato planted on this, though the potato is more apt to be defective, and not to keep so well by this plan. Ashes is a good manure for the potato—even "coal ashes" do well, if they are not too coarse, and have been suffered to lay awhile before using. Larger quantities will be required of coal ashes, and those from anthracite are to be avoided. Cut the potato to two eyes, and roll in plaster or ashes, and if cut several days before hand they are thought to come up better, being less apt to rot if previously dried off. As yet, we know of no better potato for the early crop than the "Early Rose." Potatoes for planting will be very scarce, in all probability, and we advise our friends to take care of any they may have which will do for seed.

GARDEN PEAS should be planted for early this month, if the weather is sufficiently open, and the ground in good order. "Carter's First Crop," and "Lan-dreth's Extra Early," are the best for early crops, the former seeming the most popular now among the gardeners. It does not pay to stick peas, except in private gardens, on a small scale.

HOT BEDS should be prepared, if not previously done, for tomato, egg-plant, lettuce, early cabbage, pepper, &c.

MANURE should be hauled out every opportunity ; and when the ground is frozen top dress grass lands, wheat, rye and oats—though for the three last, we have no doubt the manure will act better if dragged in with the grain, or even lightly plowed in.

LIMING should be done this month on lands not previously limed, if practicable. Though later liming will answer for corn land and Spring oats, but Spring work presses so, it is apt to be put off if not done in some of the winter months. "Gas Lime" is very cheap—only, we think, two cents a bushel—and near the cities should be used, both on account of its cheapness and its intrinsic value. We have used it quite freely, and think it a very good form of lime. Taken fresh from the works, it is sometimes injurious to vegetation, on account of the "Sulphuret Calcium" it contains. This, if exposed to the air, becomes after a time converted in sulphate lime or gypsum. We have used it, after it has lain out in the yard at the Gas Works a month or two, without perceiving the least deleterious effects, applying it on oats at the time of seeding, and on corn land after it is broken up. Use from fifty to one hundred bushels according to the quality of the land and the quantity of vegetable matter it contains.

SETTING OUT FRUIT.—If this was not done last Fall, it should be done this month. March is frequently too late, if there should be a dry Spring and Summer. We have before spoken of the kinds of fruit we thought best for Eastern Virginia, and have requested persons living in other parts of the State, and States further south, to report the fruits suitable for their latitude, which we shall always be glad to publish in this journal ; for we know it is an important matter to fruit raisers to plant the proper fruits, and that great blunders are constantly being committed in this respect. An apple tree will take eight years after setting out to bear, and determine its bearing quality and the value of the fruit. If, then, we have cut this tree down, as should be done, and a proper one be planted in its place, another eight years must elapse before we get any returns worth speaking of. Thus nearly a third of an ordinary life will be passed in endeavoring to get a good apple orchard. Most of other fruits do not take so long to bear. But it is a serious matter to be setting out wrong fruit, losing our labor, the use of our land, and the being deprived of the profits of an orchard, and the luxury of delicious and wholesome edibles for our families. One thing we can safely advise in this matter : consult your neighbors, and examine the fruits raised in your vicinity, and reflect well before planting a single tree. Do not be misled by representations of fruit catalogues and unreliable nurserymen. A fruit may be very good, but the tree may be a bad bearer, and unsuited to your latitude. It may be a good bearer but of indifferent quality, or bad keeper. The desideratum, then, is to get good quality, good bearing and good keeping combined (this last particularly for apples, and in some degree for pears and grapes). In our observation, a great many worthless fruits, particularly apples, are planted, and among apples there are but few kinds which bear well in Virginia. If we are so unfortunate as to plant a fruit tree which is of little account, then the "axe should be laid to the root, for why cumbereth it the ground?" Many permit these trees to stand, disliking to see all their labor thrown away for years, and to confess their failure. Raspberries may be set out this month ; also grapes, but grapes may be safely set out in March and April ; so may raspberries be set in March, too. Strawberries had best not be set until March for fear of freezing and throwing out of the plant.

FOREST TREES may be set out also in this month. We have spoken of the

kinds to be preferred heretofore, and suggested the planting of more "sugar maples." Though not a rapid grower, it is a beautiful tree, and might be made useful for sugar.

Suppose some of our young men were to try an acre of "chestnut" trees. They will grow on poor land, and in fifteen years each tree, it is said, will yield one peck of chestnuts. One hundred trees will grow on an acre of land, and the profit would thus be about \$150, with a yearly increase in the bearing capacity of the tree for a considerable number of years. Chestnut, too, is a valuable timber tree for enclosures, and is said to be sometimes used for furniture; and it might profitably be set about on farms in out of the way places. The "walnut" is another tree valuable for its timber and for fruit, and should be planted for the benefit of the coming generation. It requires good soil.

Our young men must diversify their pursuits and exercise their ingenuity in seeking new fields for enterprise and bettering their fortunes. There are many things made in the Northern States, and bought by the South, which, no doubt, might be profitably made in the South, where we have so much timber and other raw materials. Why might not associations of young men be formed in different parts of the South to manufacture axe handles, buckets, boxes, broom handles, &c.? We have thought that the raising of broom corn and the manufacture of brooms, might form the employment of many of our young men throughout the country. By hiring, for a time, an experienced broom-maker, they could soon learn the business: and by commencing in a small way, might gradually and safely enlarge their business. Why might not bright tobacco be raised for the purpose of manufacturing cigars, which might soon be learned by the boys, and girls, too, on the plantations, and though carried on in a small way, might be made a source of some profit. This is a business easily learned.

TOBACCO PLANT BEDS must be made now, if not done sooner, as they should have been. Our readers know more about this than we can tell them, though we are entering upon the cultivation of the "weed" in a small way. We hope some of our friends will try (as we intend to do) the burning of the beds with kerosene oil—though the recent great rise in this article (caused by "a ring") will detract very much from the economy of the plan.

STOCK.—This is a trying season for stock, and it should receive constant attention. Do not trust this to the laborers on the farm, but see to it yourself. See every animal daily, and know that it has proper attention; and not only is this personal attention to be given to the stock, but to everything else on the farm, remembering the old "saw," that

"He who by the plow would thrive,
Himself must either hold or drive."

We have heard of many pigs dying from the severe cold of this Winter. Now, all this might have been prevented by proper care. If every farmer would provide "pine-tags" and leaves, and store them away in the Fall or early Winter, and bed his hogs well in good shelters, where the beds will keep dry, he may rest assured he will never lose a pig by cold weather.

"MODERN gardening simply is another term for improved methods of farming, and success, either in the kitchen or market-garden, depends upon carrying out these methods."

Editorial—General.

THE STATE AGRICULTURAL SOCIETY.

Despite the general gloom of the times, we are rejoiced to see that interest in the State Agricultural Society does not flag. We hope that this feeling will extend to every corner of the Commonwealth, so that, in the future, our Fairs may indeed represent Virginia agricultural and mechanical skill. If those in charge of the Society will only arrange matters so as to engage the concern of the young people, male and female, of the State, *success is assured*. We want the boy in the country to feel that his calling is not one simply of drudgery, but something that demands the same effort at improvement witnessed in the prosecution of all other professions; and as to the girl, how much the position of a farmer's wife really involves. There is no agency, in our judgment, that promises such excellent results, in these directions, as discreetly arranged premiums provoking effort on the part of the young people. This has been the result in other States South; we should fare as well.

We beg that the Advisory Committees will do us the honor to look through the *Planter*, during the past year, and consider the points we have urged, bearing on the well-being of the Society, before they arrange the Premium List for the Fair this Fall.

On the 9th of January, ultimo, the Executive Committee met, pursuant to previous appointment, and there were present Messrs. Burk, Ficklin, Chrisman, Bowman, Barbour, Walker, Moore and Newman. Major Drewry, President of the Society, being detained at home by sickness, Mr. Burk, First Vice President, acted as Chairman.

The Committee heard and acted on sundry protests in connection with the award of stock premiums at the last Fair.

Dr. Walker then presented the following preamble and resolutions, which were discussed and adopted, with the direction that the same be communicated to the Legislature:

WHEREAS, We, the Executive Committee of the Agricultural Society of Virginia, composed of members from all portions of the State, must necessarily have the interests of the whole State at heart; and as we believe that honor and interest alike require us to make every effort in our power to meet our obligations as a State, and pay the interest on our public debt; and that, for the accomplishment of this object, all interests and subjects, upon which taxation can be imposed, shall pay their just proportion; and whereas, we believe that a tax upon dogs would not only add directly to this object, but would promote the interest of sheep-raising in our State, and so add very greatly to the material wealth of our country, and enhance the value of our lands. Therefore,

Resolved, That we do hereby most respectfully but earnestly urge upon our Legislature the passage of a law imposing a tax upon dogs throughout the whole State.

Resolved, That, in the opinion of this body, the wishes and interests of a very large majority of the property-holders throughout the country would be represented and promoted thereby.

Resolved, That we have observed with interest and admiration, the course pursued by the Hon. JOHN LETCHER upon this subject, and hereby express to him our hearty approbation, and urge him to press this subject, by all the means in his power, upon the attention of the Legislature.

Resolved, That we are glad to see that some of our city papers are urging the passage of such a law upon our Legislature, and trust they will continue their efforts, for the furtherance of this object, and request them to publish these resolutions and call the attention of our representatives to their importance.

The meeting then adjourned till 12 o'clock the next day (10th).

Dr. Stuart's resignation, as a member of the Committee, was presented and accepted. General Williams C. Wickham was then elected to fill his place.

The matter of the lawyer's fee, in the case of Cadet Ward, was then considered and provided for. This was a very unfortunate affair, and should never have gone into the courts at all. In a large crowd, like that usually assembled at our Fair Grounds, difficulties of various sorts will arise. It would be almost a miracle if they did not. A magistrate, then, should be on the ground, all the time, to hear and dispose of all such cases, the moment they occur. This young man acted in strict accordance with his orders, and the matter should then and there have been arranged between his commanding officer and the authorities, and not subject him to the mortification of being dragged before the Police or any other court. If these boys, and they are an honor to the State, are brought here again for this purpose, the President of the College should see to it beforehand that none of them shall ever have to encounter the ordeal that fell to the lot of Cadet Ward.

A committee, composed of Messrs. Moore, Newman and Chrisman, was appointed to read and pass upon the essays submitted under the premiums offered through the *Planter* by W. N. ARMSTRONG, Esq., of New York. They presented the following report on the subject :

Your committee, appointed to examine the several essays called forth by the special premiums offered by a gentleman of New York, Mr. ARMSTRONG, whose patriotism and public spirit deserve to be highly commended, and are most fully appreciated by us, have bestowed all the attention their limited time would permit on the essays submitted to them, and beg leave to make the following report :

Several communications from the different sections of the State, except the Valley, were presented ; but, in the opinion of your committee, the writers seem to have misapprehended the object of the gentleman offering the premiums, to have lost sight of the main point, and substituted therefor detailed statements of their modes of cultivation of different crops. Your committee regret, but is constrained to report that, in their opinion, none submitted should be awarded a premium.

One, signed "South-side," is very creditable, but not of a character to justify the award of a premium.

(Signed)

S. P. MOORE,
JAMES NEWMAN,
G. H. CHRISMAN.

This report was adopted, and the Secretary directed to communicate with Mr. ARMSTRONG, asking the privilege of permitting these premiums to be offered in the regular Premium List of the Society. We are glad of this ; because it will give those of our folks in the country, who wish to compete, ample time to digest the material they will submit, and to that extent add value to their work.

The members of the Executive Committee then cast lots, in connection with their terms of office, under the late amendments to the Constitution of the Society. The results were as follows : For one year, Messrs. Ficklin, Ellzey, Watkins and Chrisman. For two years, Messrs. Newman, Bowman, Wickham and Walker. For three years, Messrs. Barbour, Palmer, Moore and Taylor.

Professor Page, Agricultural Professor at the University of Virginia, then read a valuable paper on agriculture, as bearing particularly on Virginia. It was re-

ferred to a committee, with directions to report at the next meeting. This paper appears elsewhere in this number.

The several Advisory Boards were appointed, and directed to report to the next meeting a schedule of premiums in the various departments of the Fair. We do hope that this schedule will be all that we would wish to see in such a document, and that it will be issued in time to give everybody in the State a showing who are disposed to lend their service in making the Fair what it ought to be, our peculiar pride. It has, in the past, been issued altogether too late in the season. We beg, also, that the President will arrange with some efficient person, at each Court-house throughout the State, to see that the Premium Lists are well distributed. The Society, like any business, must be "pushed" if it is to bear good fruit. Lead is a good metal in its place, but that place is not in the conduct of an affair that demands all the energy and enterprise we can put into it.

Colonel Knight (who can always be counted on for good work) was appointed to secure an instalment of forty of the Blackburg Cadets to act as police at the next Fair. Now, Professor Minor, let those boys come (they were one of our chief attractions at the last Fair), but don't permit any of them to again get into trouble, especially when acting, as Cadet Ward was, in the strict line of their duty.

It was agreed that the Fair should be held commencing on the last Tuesday in October next.

The meeting then adjourned to the second Wednesday in February, which meeting shall take the place of the regular April meeting.

In examining the accounts of the Secretary and Treasurer, the gratifying fact was developed that the last Fair was held without loss in money to the Society. This was no trifling achievement in the face of the demoralization produced by that Philadelphia job, the Centennial.

We quote from the *Whig* an account of the meeting of the Life Members of the Society held on the 10th ultimo:

Pursuant to a call of the Vice President of the Virginia Agricultural Society, a meeting of the Life Members was held last night in the hall of the House of Delegates.

Mr. W. A. Burk, of Staunton, was called to the chair. The following gentlemen were present: A. H. H. Stuart; E. G. Leigh; John L. Eubank, Bath; Col. W. C. Knight, Vice President, Richmond; R. B. Haxall, Orange; Peyton Johnston, Travelling Agent, Richmond; Gen. W. H. F. Lee, Fauquier; E. G. Booth, Philadelphia; Dr. W. F. Walker, S. W. Ficklin, Albemarle; Col. H. C. Cabell, Dr. L. R. Dickinson, Richmond; A. M. Bowman, Augusta; Dr. Terry, Mecklenburg; W. A. Burk, Staunton; Alex. McRae, Dr. Blair Burwell, W. C. Martin, B. B. Thornton, W. J. Smith, W. R. Moore, Richmond; F. G. Ruffin, Chesterfield; W. F. Gordon, Louisa; R. G. Allen, Henrico; Col. E. W. Hubbard, Buckingham; W. T. Sutherlin, E. D. Eacho, Isaac Davenport, Jr., Joseph R. Anderson, Daniel O'Donnell, Richmond.

Upon a call by the Chair, Col. W. C. Knight, Vice President of the Virginia Agricultural Society, stated the object for which this meeting of the Life Members of the Society was called, which he explained to be a desire to amend the Constitution of the Association as to allow a mortgage to be placed upon the property of the Society, which could only be done by the consent of a majority of the Life Members of the Association, which numbered over fifteen hundred, and a majority of which would be over seven hundred. He did not think that there were over three hundred represented in the meeting.

The Secretary stated that there were fifteen hundred and seventy-three Life Members on the books, and only three hundred and seven had reported to him either in person or by proxy.

Mr. E. G. Booth, of Philadelphia, said he would like to be informed as to the exact amount of the debt of the Association.

The Secretary informed him that the floating debt amounted to \$13,600.

Col. Knight, in answer to the inquiries of Mr. Booth, explained that the assets of the Society would exceed over \$80,000. When the Society purchased the present Fair Grounds they had about \$30,000 in cash and bonds, which had been expended in the purchase of these Grounds. The present indebtedness of the Association was incurred by the improvements made upon them. He said that a patriotic gentleman of England, Mr. Gilliat, had offered to take these bonds at a very low interest as soon as they were put in such a condition that he could do so.

Nothing was done in the matter, as there was no quorum present, so the meeting was adjourned till the second Wednesday in February, on which day, as above stated, the Executive Committee will meet.

We have taken the trouble to go quite fully into these matters, because it is eminently proper that an agricultural journal should deal in whatever affects the interest it represents; and second, because we know of nothing that should engage the attention of our people more than the welfare of this Society. We are nobody's organ, for organs generally play to suit the fancy of the director; and our playing has not been of this kind. We have urged, from time to time, what we thought would help the cause, if acted upon; and we do not believe our work has been in vain.

WORKING CLASSES OF ENGLAND ON THE EASTERN QUESTION.

We clip the following from the *London Times* of the 15th December last. It is a strong document, and sounds strangely to American ears, coming as it does from a Kingdom:

An address to the working classes on the Eastern Question, drawn up by a sub-committee, appointed at a Conference held in London on Saturday, of representatives of working-men's societies, was submitted last night to a meeting of the general committee, and was unanimously adopted. The address, which is in the following terms, is signed by the members of the sub-committee:

"Fellow Workmen.—There must be no war in Europe. The worst of all the evils which beset modern Europe is the hostility of race and religion. Wars of race and wars of religion—these are the pests of our generation. These are the clouds which darken the future, and hopelessly defer the time when industry shall take the place of war as the great field of man's social activity. We call upon the workmen in all of countries Europe to watch their rulers at the present crisis, and counteract as best they may the rivalry of dynasties, races, and creeds.

"No war between Russia and Turkey! There is just cause for the popular feeling in Russia. But let her once draw the sword, she will be possessed, it is to be feared, with blind religious bigotry. The Turk will fight to the bitter end, and will justify himself hereafter in his intolerance.

"This war is not inevitable. England, if she only does her duty, may be able to avert it. That duty is to join cordially with Russia and the other Great Powers to force the Turkish Government to release its hold on the revolted Provinces, to the full extent of self-government, which will admit of their growth in prosperity and civic habits. The governing Turk of the 19th century is the same Turk of the ninth century, *minus* the power of doing mischief abroad. The money spent and blood spilt for him twenty years ago have only served to prop up a little longer an execrable barbarism. England especially is responsible for this. It is now the duty of the working classes of this country to proclaim in an unmistakable voice that the direct rule of the Ottoman Government over the non-Mussulman Provinces must cease. The political ascendancy of the Turk with his Asiatic barbarity must be brought utterly to an end. Mahomedan intolerance must be broken down—so the truest service will be done to the Mahomedan religion—that religion must be left free and unhindered. Unity of opinion will come last. Liberty of opinion must come first.

"The duty of striking down oppression is forced upon England. She must reverse the policy of the last twenty-five years. The English nation will not be bound by any alliance with the oppressor. The dread of Russian aggression is

unreal in the face of Europe's opposition; the nations of the West will not assent to the absorption of Turkey in Russia. To act upon such dread by any measure of hostility would at the present moment be criminal impolicy. It would encourage the Turk to his ruin, and it would fasten upon England the indelible shame of sacrificing her duty to her interest, the great duty of redressing oppression and preventing war to the paltry interests of her mercantile empire.

"England has outlived her own era of religious persecution and race enmity. Let all her influence be exerted to save Europe from their sway.

"A portion of the commercial class is calling for another of those wars connected with trading interests which have been the disgrace and hindrance of our generation. Let our voice be raised for justice and peace. The working classes of this country will never forgive the Minister who shall associate this country with the cause of oppression. We are determined to use through our various organizations all legitimate means at our command to ensure that not one penny of English money shall be spent, nor one English life sacrificed to prop up the most detestable despotism that ever existed. (Signed)

"ROBERT APPELGARTH,

"J. GEORGE ECCARIUS,

"THOMAS PATERSON,

"GEORGE SHIPTON,

"JOHN WESTON."

There are those of us, in the South, who think that, on the whole, our forefathers did a very bad day's work when they ceased to be subjects of Great Britain. Lord DUFFERIN's fun, at a late banquet in Canada, was no fun to us. It was bitter, bitter truth. What do "forms" of government amount to except their administration be healthy? We have a good enough "form" provided it involved any responsibility in our rulers. We certainly find none here. With a prostituted suffrage, and all our officers made by this suffrage, the general business is too much to look out for the main chance, which is to fleece the industrious and provident out of what they should properly enjoy themselves. Even Judges are elective—the last and most fatal blow at our liberties. Just here we will present something of interest. On the 14th of December last, the Fishmonger's Company of London, gave a banquet. The guests numbered many of the most distinguished people in England. Among the toasts proposed by the Prime Warden, the Right Hon. RUSSELL GURNEY, M. P., was one to the "Bench and Bar of England." The Prime Warden used the following language:

For many generations the Judges of Westminster Hall had been looked up to with honor and pride by Englishmen for their great learning and their independence; and he felt that they well deserved the confidence that was placed in them. Ministers of State were eulogised or defamed as the case might be, laws were approved or condemned, but the Judges were regarded with every confidence, and they administered the law faithfully and impartially, and preserved the rights both of Sovereign and subject, and of rich and poor (Hear, hear.) The Bar was deservedly a popular body, and he believed that the great powers and privileges it enjoyed were always exercised in the interests of the public, and were seldom, if ever, abused.

Lord Justice JAMES, replying for the Judicial Bench, said in this country Judges were liberally remunerated. They had a position and power sufficient to gratify the ambition of the most ambitious. They were received throughout the country with such distinction and honor of which even the vainest would be proud. They would, however, be unworthy of the character of Englishmen, if they did not feel the full force of the obligation thus cast upon them. What could they render in return? The suspicion of judicial corruption had been obsolete for generations; subservience to the smiles or the frowns of those in power was a thing of the past; and it did not require much moral courage to remain unaffected by the howling of an infuriated mob. In return for all that their countrymen had conferred upon them, they could be faithful workmen, and give forth honest, industrious work.

All of which appears almost like romance to us when we remember that even the Supreme Court of the United States is regarded as a partisan body. We

do not forget when the judgments of that body inspired us with awe ; we wish we could say as much now. The conservatism of all the past has been blown to atoms by this country, and in the wreck, we look to the future with a hope much like that of a man sustaining himself in mid-ocean on a plank.

“ The form of government let fools contest,
That which is best administered is best.”

UNITED STATES BONDS HELD ABROAD.

Mr. Francis Ritter asks, on behalf of about a dozen readers (says the *Chicago Times*) what is the amount of United States bonds held by foreign countries. It is impossible to give an answer to this question that can be relied upon as absolutely, or even approximately, correct. No record of the movement of United States bonds between this country and foreign countries has been kept, and perhaps it has not been possible to keep any such record. The amount of our bonds held abroad is variously estimated at \$900,000,000 to \$1,200,000,000. The most common estimate, and that which appears to be accepted by those whose opportunities for forming a correct judgment are best, is \$1,000,000,000. An estimate might be roughly made in this way: The whole amount of United States bonds outstanding is, in round numbers, \$1,700,600,000. Of this amount we know that \$356,500,000 is held by the United States Treasury as security for the circulations of the national banks, and for United States funds deposited in the banks, leaving \$1,343,500,000 to be accounted for. We know that a considerable amount of the bonds is held by individuals and trust companies in this country, and that they are bought and sold in sufficient quantities in our principal markets to warrant daily quotations. To all appearances, \$350,000,000 would be a low estimate of the amount held in the country outside of the banks and the Treasury. According to this estimate, which, loose as it is, approximates the truth as nearly as any other, perhaps, the amount held in foreign countries is not far from a thousand million dollars.

Perhaps the dozen querists want to know what amount of our bonds is held by foreign governments. If that is the case, the *Times* can inform them that the amount is small. The German Government holds ten or fifteen millions of our securities. So far as the *Times* is aware no other Government holds a single one of them.

A thousand million of dollars of our bonds, held abroad, is an ugly thing to look at in the presence of troubles such as now afflict this country. Panics, like fire in a prairie, start suddenly and travel swiftly; and if the thing is once begun on the other side, we will have delightful times on this. Our accumulations from excess of exports over imports will melt away like snow before the sun in the face of a thousand million in bonds thrown on the market here for conversion into gold.

We cannot tell how the troubles manufactured by GRANT and his co-conspirators will end. We imagine that the real worry with them is not so much a surrender of the spoils as the fear that TILDEN will “work them up” after the manner of his dealing with the numerous Rings who had nearly bankrupted the State of New York. People who have spent of the public money, in the last nine years, \$691,000,000 more than was spent in the previous seventy-seven years, including the war, have cause to fear the striped clothes issued at the Albany Penitentiary. Looked at any way, the conspirators will avail themselves of every stratagem to hold the Government; and this would have been the case if TILDEN had got even more votes than he did. As it was, leaving out the negroes, and he received over a million more votes than HAYES.

We will hope for the best.

THE GOVERNORSHIP.

It has often struck us as strange that men in the United States speak of politicians as a distinct class, when the last man of us is born to that business, or we belie the system under which we live. There is a vast difference between politics and demagoguery; and it is a shame that a respectable word like the first should be confounded with a filthy thing like the second. The gulf is wide and impassable between a WASHINGTON and a CLEON. We suspect that the good people who rail at what they call "the politicians," find in this an excuse to themselves for the neglect of their own highest duty. DE TOCQUEVILLE has something to say on this point, which we will quote: "There is a most dangerous passage in the history of a democratic people. When the taste for physical gratification among such a people has grown more rapidly than their education and their experience of free institutions, the time will come when men are carried away, and lose all self-restraint, at the sight of the new possessions they are about to lay hold upon. In their intense and exclusive anxiety to make a fortune, they lose sight of the close connection which exists between the private fortune of each of them and the prosperity of all. It is not necessary to do violence to such a people in order to strip them of the rights they enjoy; they themselves willingly loosen their hold. The discharge of political duties appears to them to be a troublesome annoyance, which diverts them from their occupation and business. If they be required to elect representatives, to support the government by personal service, to meet on public business, they have no time—they cannot waste their precious time in useless engagements; such idle amusements are unsuited to serious men who are engaged with the more important interests of life. These people think they are following the principle of self interest, but the idea they entertain of that principle is a very rude one; and the better to look after what they call their business, *they neglect their chief business, which is to remain their own masters.*"

Are not most of us constrained to plead guilty to this indictment? It is too true. But our troubles should teach us wisdom, and cause us to give time enough to the important business of looking to the selection of proper men for our rulers.

Already we see the matter of who shall be brought out for the Governor's place, when Gov. KEMPER's work is done, considerably agitated. There are doubtless hundreds in the Commonwealth who, in their hearts, believe that they were born to fill that very office. We are thankful to say that we are not in that category; and more, are not bound to say one word for or against any living man. We publish the *Planter*, and expect to make a living by it, but that does not necessarily require us to be anybody's fogleman. So, any preference we may indicate, is confined wholly to ourself, and uttered with the freedom that should characterize every Virginian. Now, there are many good men in the State, but all of them cannot be Governor. We have turned over in our mind their qualities and general aptitude for the position, and consider General W. H. F. LEE, of Fairfax, the man who most nearly "fills the bill." While we have no idea that he has even thought of the position, still that does not prove that he could not fill it creditably. With our best love for all the rest, we do hope that he will be the man.

We have always been grieved to hear people talking about what offices were due to Tidewater, what to the South-side, what to the Valley, &c. These are the things that hinder our prosperity as a Commonwealth; we have no business with divisions of any kind, except simple imaginary lines to indicate our several

locations ; and, as long as men harp on such things, we will see no rapid advance in our fortunes. The best man for the position is the only man for it : and "happy the people when the government is a burden rather than a decoration to the ruler."

RICHMOND AS A COTTON PORT.—The Richmond and Danville Railroad has been bringing so much cotton through Richmond, on its way North, that some of the citizens have a notion that it could be stopped there : they are indeed talking about putting up a "compress," so as to put the cotton in a shape for shipment abroad. Richmond furnishes two articles as attractions to ships from Europe, namely, tobacco and petroleum. She does not see why she cannot add a third, namely, cotton. The cotton she counts on would not necessarily interfere with the trade at Norfolk, coming as it would from the country along the Piedmont Air Line : and so the venture might be made with good promise of paying results. It is a source of great pride to us to know that Norfolk now stands No. 2, as a cotton port, New Orleans only being ahead of her. The following item, from the *Norfolk Landmark*, (a journal full of life and hope) will show what that good old Virginia town has done :

"Just ten years ago Norfolk exported only 733 bales of cotton to European ports : in the fiscal year, just ended, we sent abroad 106,421 bales, an increase over that year of 105,688 bales, and at the end of the present season this will be largely increased. Last year (fiscal) the total cotton received here on all accounts was 831,477.

"Last year the foreign-bound bottoms, sailing or steaming out of this port, reached the aggregate of 65,504 tons, the largest carrying capacity which we have had for many years. The export values of the commodities carried attained during the period accounted for (1876), the respectable total of \$7,825,112, which, compared with the export values of 1866, (that year only \$411,450.72), shows the prodigious gain of \$7,414,661.28."

This, being all new business, shows how Southern energy is manifesting itself. As soon as things become reasonably settled down in the South, there will be no dearth of outside capital seeking investment with us. New England will transfer not a few of her spindles to the cotton field as soon as she can have the assurance that they will not be subject to the dominion of legislatures composed of negroes and carpet baggers ; for no man wants his substance taxed out of existence.

THE ART OF WRITING FOR A JOURNAL.

1. Be brief. This is the age of telegraphs and stenography.
2. Be pointed. Don't write all around a subject without hitting it.
3. State facts, but don't stop to moralize. It's a drowsy subject. Let the reader do his own dreaming.
4. Eschew preface. Plunge at once into your subject, like a swimmer into cold water.
5. If you have written a sentence that you think particularly fine, draw your pen through it. A pet child is always the worst in the family.
6. Condense. Make sure that you really have an idea and then record it in the shortest possible terms. We want thoughts in their quintessence.
7. When your article is completed, strike out nine tenths of the adjectives.

The above rules we observed in a backwood's paper, and perpetuate them for the general benefit. They are exactly to the point. Strong adjectives are only tolerable in trying to sell a bad horse for a good price, or writing to one's sweetheart. The ponderous style of Dr. JOHNSON is not in fashion now-a-days, and we are not sorry for it. Let us try and write with the simple words we use in our speech, and there will be no trouble in getting at the meaning of what we wish to convey.

"**MEEKINS'S TWINS.**"—There is an "ancient mariner" who keeps a confectionery and feed store at Rocketts, called MOZIS ADDUMS. It appears that a neighbor of his, MEEKINS by name, has lately been blessed with twins. Whether this is an extraordinary occurrence or not, in that far distant land, we do not know; we suppose it is; for Mr. ADDUMS has taken the trouble to write a little book, setting forth the particulars of the whole business, under the general title of "*Meekins's Twins.*" It is an interesting matter, and *might* "come to the home of every man." We, therefore, hope that our friends, who, in such a contingency, would need all the philosophy they could command, will write to Messrs. WEST & JOHNSTON, Booksellers, Richmond, at once, for a copy. The price is "a quorter."

P. S.—MEEKINS has just had a slam. A young couple on Church Hill boast the honor of triplets—all fine boys—and the delighted parents named them Tilden, Hendricks and Reform. But Reform died.

P. S.—Old MOZIS is a physiological anomaly. With "Bacon and Greens," the world over, a man's eyes (whether he be wicked or not) should stick out with fatness—whereas MOZIS's don't stick out worth a cent. What sort of ribs must he have? Considering the effect of the hard times on his confectionery and feed store, he swears that the man who wrote about silver linings to clouds was a consummate humbug; and that twelve months at Rocketts would cure him thoroughly, especially when one has to bale out the annual flood peculiar to that quarter with an empty fruit can, and be thankful that his feed store has not been transported to Hampton Roads.

"**THE OLD VIRGINIA GENTLEMAN.**"—We wish that every boy and girl in the Commonwealth, yes, in the whole South, could hear Dr. BAGBY's lecture on the Old Virginia Gentleman. In the principles on which that man was founded, and on them alone, are we to look for any renown in the future. This lecture was prepared by the Doctor in the interest of the Virginia Historical Society; and we are glad that the story of our past, as embodied in the Old Virginia Gentleman, has fallen into such worthy hands.

The precious memorials of Virginia's glory have yet found no place where they may enjoy security against the destructive hand of time. While we cannot, in these troublous times, do much more than look after our own bodies, we may yet find relief in thinking of what the past demands at our hands. These thoughts, if things get better, may become deeds.

OUR OYSTER BEDS.—"Baltimore dealers say that entire oyster beds are destroyed by drum-fish—voracious creatures strong enough to break the shells with their teeth."

Unfortunately the dreaded drum-fish are the oyster dealers themselves. The way they are destroying the oyster-beds of Virginia is enough to make even a member of the Virginia Legislature tremble. He, as the people's representative, is sleepless in his endeavor to give another turn to the thumb-screw that has done such good work in making the unproductive lands of Virginia yield a tax that their proprietors sweat blood to provide, but appears to have understood at last the value of this magnificent State property, the oyster-beds, and is inquiring of the Governor how they are to be preserved from the clutches of the pirates who have so long used them as their own, and how a revenue may be derived from them to help pay the public expenses. Ravished as they are now, we will soon see the day when, like the oysters of Dijon, a dozen "York Rivers" may be served

in a single spoonful. The Governor has made his response ; and we do hope it will be acted on, and some business-like arrangement made to secure these so much needed ends. It is, by all odds, the most important State interest we have ; and should bear a tax commensurate with its value. A reasonable royalty on every bushel taken would produce a sum so large as to make us find providing for the interest on the State's debt an easy business.

COL. WASHINGTON'S ORCHARD GRASS SEED.—We will not say how much we regret that the beautiful sample of orchard grass seed exhibited by Colonel JOHN WASHINGTON, of Caroline, was overlooked by the judges at the last State Fair. We have heard our folks say so often how badly the Northern and Western seed of this grass had turned out for them, that we were full of hope that the most thorough examination would be made of the Colonel's seed, and the fact of their excellence published by the Fair authorities. It would be folly for our seedsmen to bring this seed from abroad when our own folks could produce it so much better. Besides, our wealth will increase slowly enough if we insist upon going to outsiders for everything we need. We groan about the injustice of the North, and yet we have been doing everything in our power to burnish the club with which to beat out our own brains.

THE COMPROMISE.

The Destructives are doing their best to kill off the Compromise Bill looking to a fair count of the Electoral vote. Of course they are ; nobody could possibly die harder. They went in for the spoils ; when they let them go, they let go all. They never had any character to lose. But we are surprised that any of our Southern folks should side with them in this thing. If, as appears to be the fact, MONTESQUIEU was right, when he said : "a large republic is subordinate to exceptions, and depends on accidents," the most should be made out of this arrangement ; more especially as nothing better is offered to get the country out of the slough in which it is now floundering. Half a loaf is better than no bread. This is our opinion ; and nothing in the South can go beyond mere opinion. *Demands presume power.*

Of course, the necessity of calling in the aid of the Supreme Court is a plain confession by the two Houses of the utter lack of confidence they have in one another's honesty. There is hope that, despite the present complexion of the members of that once august body, still even-handed justice enough remains in it to give a fair judgment on this issue.

P. S.—The Bill has become a law ; and more, three of the Destructives laid on the shelf ; Boutwell, Frelinghuysen and Logan. This latter is the most hopeful sign of a change for the better we have seen since the war. Nobody hails such evidences of returning good sense with more satisfaction than we do.

PATHOLOGICAL.—The leper, BEECHER, was put on exhibition in Richmond, on the 23d ultimo. Some persons were curious enough to look on the thing ; but we imagine they were well provided with good smelling-bottles and spectacles made of smoked glass. The natural nose and eye were unequal to the task. Why they brought the thing outside of its normal location we are puzzled to understand ; it is so much relished there that we thought they would be unwilling to part with it even for a day.—The times are certainly out of joint when a man born in Virginia could get his consent to gaze willingly on such a spectacle of filth and pollution, much less listen to its profane babbling.

RUSSIA AND TURKEY.—We find the following in the last Cotton Circular of SMITH, EDWARDS & Co., of Liverpool: "If Turkey submits to the decision of the Conference, we should hope for a prolonged period of peace and prosperity in Europe; for no other political question of a pressing kind remains. It is quite doubtful, however, if Turkey will submit; she may refuse and take the consequences, and in that case a war between her and Russia appears to be inevitable. Such a war will not greatly interfere with trade if confined to these Powers, but it might lead to serious complications if the Turkish Empire, as is most likely, ultimately fell to pieces, and a new distribution of power in the East had to take place. Public opinion is not so engrossed with the Conference as it once was; for the danger of a collision between England and Russia is thought for the present to have passed away. In the remote future, however, most difficult questions are sure to arise if the Ottoman Empire breaks up, and it will task the wisdom of European statesmen to the utmost to resettle these vast territories without a quarrel over the spoils."

SUMAC.—We propose, in a future number of the *Planter*, to present to our people, from the pen of a Virginian in Sicily, a full account of the cultivation, curing and preparation for market, of Sicilian sumac. When we consider the dimensions to which this trade has grown amongst us, and the capability of Virginia to produce it of superior quality, we are persuaded that we could present few things that would excite greater interest than a record of the experience of those people who produce it in perfection. It brings comfort to many a fireside, among the poor people in the country, and we should give it the attention required to make it yield the largest income.

THE LATE MR. HANNEWINKEL.—The news of the death of this estimable gentleman will carry regret to more than one farm house in Virginia. He was, perhaps, the heaviest buyer of continental shipping tobacco in the Richmond market. His dealings were so just, his manners so courteous, and his life so entirely blameless, that he commanded and enjoyed the unreserved confidence of the whole farming community with whom he came in contact. In Richmond, no man was more thoroughly esteemed. His benefactions were both numerous and large, the chief being the establishment of the Home for Aged Ladies, in connection with St. James Church. His monument is securely founded; it rests on the affections of a grateful people; and while we mourn his irreparable loss to us, as a community, we pray God to protect and defend his motherless children.

CLOVER.—"Clover is a practical creator of nitrogen in the soil. It is also a purveyor of potash and phosphoric acid. According to experiments made in Germany, the clover of an acre leaves nitrogen enough for 116 bushels of wheat, phosphoric acid enough for 114 bushels, and potash enough for 78 bushels, and all in the very best possible condition."

Does every farmer in Virginia whose land will grow clover heed this? There is no plant, in which so much that is good is given us, without money and without price, as in the clover plant. It is the purveyor of our bread, and those who have not made a friend of it should not hold back longer.

MAKE UP YOUR CLUBS.—The *Planter* should have a club of subscribers in every Grange in Virginia; and this could be done without detriment to the claims of any other journal looking to the order for patronage. The material we present, we aim to make of permanent benefit to every agriculturist in the State.

PLANT BEDS.—The weather has been so wretched for some weeks past that our folks have had a sorry showing to prepare their plant beds. They have this comfort, however, and that is, the egg of the fly has been probably destroyed. Most severe winters are followed by good tobacco crops, and we trust this will be no exception to the rule. Some planters make one very large bed, on the ground that the fly will only depredate for a certain distance around the edge, and leave the middle untouched. Others say it is better to make a number of small beds, in different localities, so that if one misses the other hits. In general, let everybody sow ground enough, and give the patch the best protection against the cold they can.

As interesting in this connection, we submit below a note we have just received from an esteemed friend in Caroline :

Will you allow me to make a suggestion in your paper to my brother tobacco makers in regard to raising plants? I lost last year the greater part of my plants by the ravages of the fly. Some beds were entirely destroyed; and all, except one, partially; this one was sown about a hundred yards from my dwelling-house, and I observed, almost every day, that several broods of young chickens would feed on and around this bed. These plants were entirely unmolested by the fly, so far as I could observe, and I concluded that they must have been destroyed by the chicks. I wish to suggest, then, that, when practicable, the tobacco beds be made near our dwellings, where the young chicks can be driven to them. Another advantage in raising plants near our dwellings is, that, when we observe the clouds gathering for rain, we can draw and set out previous to the rain, (as I always do), but if our beds be at a distance from the dwelling, or tobacco lot, too much time is consumed in gathering the plants to accomplish this. I think plants live and grow more rapidly when set previous to a rain than when set in the wet land after a rain.

J. H. MARTIN.

Caroline county, Va.

THAT "MINERAL CITY" ADVERTISEMENT.

This advertisement was forwarded to us, for insertion, by a highly respectable Advertising Agency; and assuming that they would not, as they had never done so before, send us anything but what was entirely proper, we inserted it. We noticed from the papers, very soon after its appearance in the *Planter*, that the "Mineral City" business was a fraud. We have received the following, concerning it, from a friend in Southampton, and deeply regret the appearance of the advertisement in our pages :

JANUARY 8, 1877.

Editor Planter and Farmer,—On examining your interesting issue of present month, I was somewhat surprised to find the advertisement of the "Ohio, Kentucky and Texas Land Company," proposing to "give away" town lots in Mineral City, Grayson county, Texas, from the fact that this scheme has been published as a base swindle for weeks past.

I noticed in the *Country Gentleman*, of 30th November, this advertisement, and an editorial notice approving same, and really regarded it as an honest, legitimate and plausible project—and was indeed surprised to find the following editorial remarks, &c., on same subject, in same paper of 7th December: "Warning to our Readers. An advertisement of 'town lots absolutely given away' was published in our last issue, as we had seen the same advertisement in many other respectable journals, and had no reason to suppose it was not exactly what it appeared upon its face; but as the present number goes to press the *Kansas Farmer*, of November 29th, reaches us, containing a letter from a correspondent, who states unreservedly that the whole thing is a complete humbug, that the town lots exist only on paper, and that the sole object is to exchange a worthless 'warranty deed for \$1.25,' which is charged for cost ostensibly of placing the same on record. The letter is from Jas. A. Troutman, of Tecumseh, Kansas, who says: 'In your issue of November 22d, appear the advertisement of the 'Ohio, Kentucky and Texas Land Company,' which receives your edito-

rial approbation. Believing that you would not knowingly countenance a fraud, and knowing the scheme of this company to be a skillfully devised and systematically operated fraud, I wish to say a word, to defeat, in part, the designs of this company of nefarious and miscreant wretches. About a year ago I read an advertisement of this company, similar to the one published in last week's issue of the *Farmer*. I sent the requisite amount to the company, and received by return mail what purported to be a warranty deed, which I sent to Grayson county, Texas, and paid an additional dollar and twenty-five cents, recorder's fee. I supposed I was the *bona fide* owner of real estate in 'Mineral City,' until last week, when the treasurer of Grayson county wrote me, in response to enquiries, that 'Mineral City' has no existence save in the minds of those who bought 'lots,' and that 'the whole thing is a fraud of the basest kind.' They limit the number of lots taken by one person to five, but omit to state that they convey but one lot in each deed, thus obtaining five fees for acknowledgment of a notary public, and five fees for recording deeds. I noticed the advertisement in other papers last week, with the postscript that it would appear but once. The object of a single and simultaneous publication of the advertisement is, doubtless, to obtain all the money possible before the fraud is discovered.' "

Hoping your valuable journal may not again be used as the medium through which the interests of such base swindlers are promoted, and that its prosperous course may continue many long years.

I am, very respectfully,

W. H. D.

URGENT.—Let every farmer, who is not already provided, see that his table is no longer without some good books on agriculture. The *Planter* gives men's experience, and as much more, as its lids will hold, but every farmer needs technical books as well, those explaining soils and plants. He will be the better of having the knowledge; *his boys certainly will*; and these boys are the hope of the Commonwealth. If the times are hard, they are not too hard to make this absolutely necessary provision. Let it then be done, and we know we will come in for a share of your gratitude from the benefit you will receive from the investment.

REGISTER OF RURAL AFFAIRS.—This annual, by Mr. J. J. THOMAS, of the *Country Gentleman*, we would like all of our friends in the country to have. It is full of interest, as well for the ladies as the men; and, when taken up, we are sure will not be laid down until the book is read through. The price is thirty cents, and can be had of LUTHER TUCKER & SON, Albany, New York.

A CHEERFUL MEMORANDUM.—A large planter in Halifax county, Virginia, in a late letter to us, observes: "Labor is cheaper now, in this county, than at any time since the war. We are making farming more self-sustaining by raising more meat and other farm supplies. *This, unquestionably, is the only road to success.* The prospect for a peaceful settlement of our political troubles is both gratifying and encouraging. Our people are working with hope and will, and, if favored by propitious seasons, will be happy next Fall. Wheat looks well."

If the tobacco and cotton country both become self-sustaining, in the matter of food for man and beast, comfort will come to us, not as a guest, but as a permanent member of our households. It will so cheer us up that our sleep will be sound, our temper even (our wife, therefore, happy), our digestion good, and nobody hurt by it—except the sheriff.

THE HOME AT GREYLOCK.—The very mention of a new book from the pen of Mrs. Prentiss sends a thrill of pleasure to every one who has ever read her "Stepping Heavenward," "Aunt Jane's Hero," &c. The volume before us is a charming picture of a happy home and the sweet influences of a godly mother who lived not for *self*, but for her children and all who needed her helping hand. The book is decidedly fresh and original, and we commend it to our readers as well worthy of their perusal. Anson D. F. Randolph & Co., New York.

WE introduce to our readers in this number a likeness and sketch of our townsman, Mr. JAMES LEIGH JONES, M. A. He was born in King William county, Va., in the year 1833. His father, Mr. Thos. Sellers Jones, was descended from a Welsh family, who came to this country amongst the original settlers in East Virginia. He was an influential, energetic farmer, and a zealous Christian gentleman. From his innate love of nature he selected agriculture as a vocation, and drew from his fields, laden with their waving fruits, a seeming inspiration, which nerved him to accomplish the highest ends. He gave his son a good common school education, and during the summer vacations he endeavored to impress upon him the necessary importance of agriculture and of accurate agricultural knowledge. He held up to his son as worthy of imitation the example of the very best agriculturists in our land. He taught that the independence accompanying agriculture was far more conducive to the complete development of one's manhood than the servile office of a pent-up clerkship, and that it was the especial vocation upon which depended the material prosperity of our Southern States. Of course his son, reared under such instructions, and, actively engaged in farm enterprises during the summer vacations, naturally acquired that taste for farming, which he now pursues with much success.

In the year 1853 Mr. Jones matriculated at the University of Virginia as an academic student. Although he was encircled by many a difficulty, yet, nothing daunted, he determined to render himself worthy of the highest honors of that institution. He pursued his studies with great diligence, and overcame, by his indomitable will, every obstacle that presented itself. He soon graduated in the several academic schools, and was in succession graduated Bachelor of Arts, and then Master of Arts, of the University of Virginia.

The same year in which he was graduated he was elected, over a great many competitors, Professor of the Ancient Languages and Mathematics in two Literary Institutions. The one in this State, the other in North Carolina. He accepted, however, a position in the Richmond Female Institute, as teacher of both Latin and Mathematics. These chairs he filled with unusual ability, until the cannon's echo around Richmond summoned every able bodied citizen to the front. During these years the Confederate States were sorely afflicted, by reason of the want of munitions of war as well as of men. Mr. Jones quickly appreciated this critical condition of affairs and brought into practical application his extensive knowledge of chemical science, for which he had a great predilection. He tendered to the Confederate Government his services as a chemist, which were accepted. In conjunction with Prof. C. H. Winston, he was assigned the most difficult duty of manufacturing sulphuric acid, sulphur, &c. His entire success, under the most discouraging circumstances, was most wonderful. He continued to discharge these onerous duties until the close of that most unhappy struggle.

Upon returning to his native home, he again organized his farm operations and set about repairing his shattered fortune. In the year 1866 there were needed schools for the children of the laboring people and of people with small means. Mr. Jones, appreciating the necessity, established in this city a school for girls, which he managed with eminent success. Numbers of girls were gratuitously taught the ground principles of a good education, and to-day some of these girls are the best teachers in our public schools.

In the year 1870 he abandoned his vocation as teacher, and combined with his agricultural operations that of manufacturing *Cavendish* and *Twist tobacco*. In this enterprise he is now largely and successfully engaged, and manufactures every possible variety of plug and twist tobacco. His factory is one of the most complete and best arranged establishments which we have ever visited. A very simple and ingenious contrivance for the utilization of exhaust-steam sufficiently demonstrates the high order of his practical scientific acquirements. Such economic arrangements in every branch of his business enable him to sell his products at lower rates than they are ordinarily sold. He manufactures every possible grade, embracing all styles, sizes and colors, both plug and twist, common and fancy, bright and black, light and hard-pressed tobacco. These products are shipped to all parts of the Union, Canada, England, and even Australia, where some of his brands rank as staple goods.

Mr. Jones has been engaged in this trade only seven or eight years, yet his scientific education and business abilities have given to his productions a widespread reputation. He has no agents or consignees, thereby dispensing with

middle-men, and thus benefitting both buyer and consumer. His sales, however, are confined to the wholesale jobbing houses. This system of sales has drawn to this city the great bulk of the tobacco trade once carried on in the Eastern cities through commission houses, and has made Richmond the principal tobacco market of the world.

Although Mr. Jones devotes the most of his energies to pressing forward his tobacco business, yet he finds ample time to superintend his elegant plantation, "Springfield," in King William county. This farm is stocked with the best breeds of cattle, sheep, hogs, &c. The soil is undergoing from year to year a thorough and economical system of fertilization. Besides the manures which are produced on the farm and preserved in winter by the aid of free soil as an absorber, he uses oyster-shell lime, which is burnt upon the farm. Clover and peas are used for fallow. This system of manures enriches the soil far more permanently than manipulated guanoes. If the planters of Virginia were to commence cultivating only such lands as had been previously well manured by such stable fertilizers, they could then well afford to abandon or sell, at small sums, the residue of their farms.

Whenever the great mass of the Virginia people shall see clearly this axiomatic truth, then will Eastern Virginia enter upon a new era of agricultural life.

MASON & HAMLIN'S ORGANS.—We call attention to the advertisement of Mason & Hamlin's organs in our advertising pages. "Their reputation is well-founded and world-wide." Their organs were assigned the "first rank" by the judges at the Centennial Exhibition at Philadelphia, 1876; and are now considered indispensable in all households.

RICHMOND PRICES CURRENT.

Reported by E. & S. WORTHAM & Co., Grocers, Dealers in Iron and Steel, and Commission Merchants.

Personal attention paid to the sale of Tobacco, Wheat, Corn, Flour, Oats, Rye, &c., &c. JANUARY 30, 1877.

TOBACCO.—Bright Lugs, \$8a\$20; Bright Leaf, \$12a\$50; Drk Lugs, \$3½a\$7; a Dark Leaf, \$6½a\$13½.

WHEAT.—Best samples, White and Red, \$1.60a\$1.62; for samples not so good, from \$1.15a\$1.50.

CORN.—50a52c. per bushel.

CORN MEAL.—60a65c. per bushel.

FLOUR.—Superfine, \$6¼a\$6½; Valley Extra, \$7a\$7½; Belmont Extra, \$8; Family, \$8a\$9. OATS.—Spring, 40c. per bushel.

BEANS.—White Navy, \$2a\$2.50. PEAS.—Black Eye, \$1.25a\$1.50.

PLASTER.—Ground, \$8 per ton.

LIME.—Rockland, \$1.10a\$1.20; Virginia, \$1.10a\$1.20.

HAY.—Virginia Timothy, 85a90c.; Clover, 60a70c.

FEATHERS.—45a55c. for live goose.

SUGARS.—P. R. and N. O., 10a¼a11½c.; Cut Loaf, 13c.; Refined Standard A, 12c.; Standard B, 11½c.; Extra C, 11¼c.

COFFEE.—Rio, 21a23½c. for good to very good; Laguayra, 21a23½c.; Java, 28a30c. MOLASSES.—Common, 28a32c.; Porto Rico, 55a65c.

BACON.—Hams, 15a16c.; C. R. Sides, 10¾a11½c.; Shoulders, 8a8½c.

WOOL.—Washed, 30a35c.; Unwashed, 20a25c. for choice.

COTTON.—12c. for low middling.

BUTTER.—Common, 12½a18c.; Good to Choice, 24a27c.

SALT.—Fine, \$1.85; Ground Alum, \$1a\$1.05.

POTATOES.—\$1.25a\$1.40 per bushel.

BEESWAX.—28a32c. per pound.

FISH.—N. C. Herrings, Cut, \$7½a\$7¾; Gross, \$5¼a\$6; N. C. Family Roe, \$6 per half barrel; Eastern, \$5½.

TAR.—\$2½. FLAX SEED.—\$1.25a\$1.35.

GUANO.—Peruvian, \$60 per ton; Pacific, \$46 per ton; Allison & Addison Star Tobacco Manure, \$50; Maryland Tobacco Food, \$55; Bone Flour, \$50.

FERTILIZERS.—Anchor Brand Tobacco Fertilizer, \$55; An. Brand Trucker's Fertilizer, \$55; An. Brand Old Dominion Co., \$50; An. Brand Wheat Fertilizer, \$50; An. Brand Cotton Fertilizer, \$50.

IRON.—Refined, common sizes, 2 6-10a2 8-10c.; Bands, 3a4c.; Swedes, 6½c.

STEEL.—Naylor's, 17½c.; Blistered, 11½a12c.; English Blistered, 16½c.

The Richmond Enquirer.

ITS SEVENTY-THIRD YEAR.

Published Daily, Semi-Weekly and Weekly.

The Enquirer, founded in 1804, has ever been recognized as one of the *leading* journals of the South.

It contains the latest news by *Telegraph* from all parts of the world. Its *Financial* and *Commercial* reports are always accurate and reliable. In fact, its columns present a daily picture of the *live* times in which we live.

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feb—tf

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THE WHEELER & WILSON SEWING MACHINE

Is as yet unsurpassed. This justly celebrated Machine stands, as it has ever stood, foremost in Sewing Machine ranks. A new triumph has been gained for it in the production of the

No. 8 MACHINE.

This Machine uses a straight needle, and makes a stitch by the silent rotation of a hook, instead of the noisy, vibrating shuttle, as do other straight-needle Machines. This No. 8 Machine possesses all the admirable points claimed by other Machines using a straight needle, and is superior to all of them in ease of operation, rapidity of sewing, noiselessness, simplicity and durability. Any child may operate it. One operator has made as many as 34 pairs of pants in one day on it.

The demand for these Machines now exceeds the supply.

Call and give us an opportunity of proving our statements, or send for circular and price list.

WHEELER & WILSON MANUFACTURING CO.

C. L. RADWAY,

AGENT FOR VIRGINIA,

may—1y

No. 30 Ninth Street, Richmond, Va.

AMERICAN HOTEL.

Corner of Main and Twelfth Sts., RICHMOND, VA.

The subscribers having leased the above Hotel for a term of years, offer to the public a first-rate Hotel at low rates to suit the times. The conduct of the Hotel will be under their own immediate supervision, and prompt personal attention will be given to all who may favor them with their patronage.

The American Hotel in the main is new, four-fifths of it being in the Ely block, which is just being finished.


It contains **100 Large and Well Ventilated Bed-Rooms.** Many of them are so arranged as to be used as connecting parlors and bed-rooms to suit visitors. Seventy-seven of the whole number front south and southeast, affording a delightful breeze in Summer and the genial rays of the sun in winter. These rooms are well suited for invalids.

This Hotel has the great advantage of being located on Main street, in the very best portion of the city, and in close proximity to all the following places: Tobacco Exchange, Corn and Flour Exchange, Flouring Mills, Banks, Insurance Companies, Courts, Real Estate Agencies, Post-Office, Custom-House, State Capitol, and all the principal business houses, both wholesale and retail, of every class.

The Ladies' Entrance and Parlors are on Main street. The Business Office is on Twelfth street easy of access, and has attached thereto a *Passenger Elevator*, by which at a moment's notice visitors can be placed on any floor in the building. The Hotel is heated with steam throughout and has all the modern improvements to constitute

A FIRST-CLASS HOTEL!

Our Table shall be of the best, and our long and successful experience in hotel life will assure visitors that nothing will be left undone to make them comfortable, and we solicit the patronage of our friends and the traveling public, as well as city boarders.

 **PRICE PER DAY, \$2.**

BALLARD & DODSON, Prop'rs.

JOHN P. BALLARD,
Former Proprietor of Exchange Hotel
and Founder of Ballard House.

J. S. DODSON,
Late of the Park Hotel

oct—1y

WHEAT.

We beg to call the attention of the Farmers and Planters
of Virginia and North Carolina to our Stock of
well known and reliable

FERTILIZERS FOR THE WHEAT CROP.

SOLUBLE PACIFIC GUANO,

COMPLETE WHEAT MANURE,

FLOUR OF RAW BONE,

SOLUBLE BONE FLOUR.

Prices and terms on application, which cannot fail to prove acceptable.

☛ Special quotations to parties buying in quantities.

Orders and correspondence of Patrons and others solicited.

ALLISON & ADDISON,
RICHMOND, VA.

GRASS SEEDS.

We are now receiving our supplies of pure and fresh CLOVER AND GRASS SEEDS, which we offer at lowest prices, viz: Clover, Timothy, Orchard Grass, Herds Grass, Blue Grass, &c., &c.

ALLISON & ADDISON,

132 Main Street, Richmond, Va.

917 C. GENNET, 917

WATCHES, JEWELRY, SILVER WARE,

BRIDAL GIFTS, SPECTACLES, EYE-GLASSES,
SILVER PLATED WARE,

917 Main Street, Richmond, Virginia.

Especial attention given to the repairs of FINE WATCHES AND JEWELRY, HAIR WORK of every description made to order—such as Chains, Necklaces, Bracelets, Pins, Ear Rings, Charms, &c.; also, DEPOT FOR DENTAL GOODS of every description.

oct—6t

Peruvian Guano Guaranteed.

By this Brand is designated *Pure* and *Genuine Peruvian Guano*, in which the lumps have been crushed, stones (when found), and all other impurities, removed:—it is, therefore, sold in *purser condition* than when landed from *Peru*.

Put up in bags of 200 pounds each, on which the *guaranteed analysis* is printed, and the *retail price* per ton of 2,000 pounds clearly marked.

The retail price is fixed according to the analysis, at the following rates, which are considerably below those adopted by Inspectors of Fertilizers in this country, or the trade in Europe, thus making the Guaranteed Peruvian Guano the **cheapest Fertilizer in the world**.

For Ammonia	17½c. per pound.
“ Soluble Phosphoric Acid	10c. “
“ Reverted “ “	8c. “
“ Insoluble “ “	2c. “
“ Potash (as Sulphate)	7½c. “

NONE GENUINE unless put up as above and bearing the following Trade Mark of the undersigned, Peruvian Government Agents in New York, and **Lead Seals**—on which the Monogram of the Trade Mark is stamped—attached to the extremities of the twine with which the mouth of the bag is sewn, to guard against adulteration.



As a specimen of Analysis and Price of Peruvian Guano Guaranteed, we give those of two cargoes, now on sale, respectively designated **A** and **B**.

CARGO A. PRICE MARKED \$56.

Ammonia	6.80 per cent.....	\$23 80
Soluble Phosphoric Acid	3.80 “	7 60
Reverted “ “	11.50 “	18 40
Total available Phosphoric Acid	15.30 “	
Insoluble Phosphoric Acid	3.00 “	1 20
Potassa	3.70 “	5 55

Estimated Retail Price.....\$56 55

The commercial value of the above Guano is \$79.40 per ton, at the rates lately adopted for valuing fertilizing ingredients, by Hon Thomas P. Janes, Commissioner of Agriculture of Atlanta, Georgia, and State Inspector, Prof. Wm. I Land, Chemist of the Department of Agriculture, which are as follows:

For Ammonia	18½c. per pound.
“ Available Phos. Acid, (Soluble and Reverted)	15½c. “
“ Insoluble Phosphoric Acid	4½c. “
“ Potassa	6½c. “

Thus, the commercial value of the above Guano is fully 42 per cent. in excess of the selling price, \$56 per ton.

CARGO B. PRICE MARKED \$70.

Ammonia	11.50 per cent.....	\$40 25
Soluble Phosphoric Acid	5.40 “	10 80
Reverted “ “	10.00 “	16 00
Total available Phosphoric Acid	15.40 “	
Insoluble Phosphoric Acid	1.70 “	68
Potassa	2.30 “	3 45

Estimated Retail Price.....\$71 18

According to the rates adopted by the Agricultural Department of Georgia, already referred to, the commercial value of this Guano is \$93.83 per ton, consequently, 34 per cent. above our selling price, \$70 per ton.

We invite Agriculturists to test the value of Commercial Fertilizers by our Standard, and to compare the result with their selling prices.

Liberal Discount Allowed to Dealers.

For further information, Circulars, &c., apply to

HOBSON, HURTADO & CO.,

Dec—6m Agents of the Government of Peru, No. 63, Pine Street, N. Y.

GERMAN POTASH SALTS

(KAINIT)

Calcined, ground and wholly soluble, containing 24 to 30 per cent. **SULPHATE OF POTASH**, being the **Cheapest** source of **POTASH** now available. Also

MURIATE OF POTASH,

80 per cent. and upwards strength.

Orders for future deliveries will receive prompt attention. A supply constantly on hand in stores.

W. G. Price, Jr., Importer,

OFFICE 103, West Lombard Street, between Light and Calvert.

WAREHOUSES.—13 Hollingsworth St., 31 Grant St.

I here annex a few extracts from letters written to me by several leading chemists:

BALTIMORE, June 17, 1876.

W. G. PRICE, Jr., Baltimore, Md.*

Dear Sir,—The introduction of the "German Potash Salts," Kainit and Muriate of Potash, has been of the utmost agricultural importance—I have analysis of samples from various cargoes you have imported, shows the article you deal in to be of excellent quality.

Respectfully, etc.,

P. B. WILSON,

Professor of Chemistry in the Washington University School of Medicine.

UNIVERSITY OF GEORGIA, GEORGIA STATE }
COLLEGE OF AGRICULTURAL & MECHANICAL ARTS, }
ATHENS, GEORGIA, May 27, 1876. }

W. G. PRICE, Jr., Baltimore, Md.

Dear Sir,—I have no hesitation in expressing the opinion that the "German Potash Salts" are of the greatest value to the agriculturists, and that either of themselves, or in connection with other proper substances, they constitute excellent and economical fertilizers.

The discovery of the "Stassfurt Salt Beds" and the application of their Potash Salts in agriculture, ranks in importance with the discovery of the Phosphatic deposits of South Carolina, and the method of rendering Bone Phosphate soluble. I cannot emphatically endorse the use of these "German Potash Salts," by the agricultural community.

Yours truly,

Prof. H. C. WHITE.


BALTIMORE, June 8th, 1876.

W. G. PRICE, Jr.

Dear Sir,—I can fully endorse the use of the "German Potash Salts," as a necessary constituent of all first-class fertilizers, giving life, vigor and growth to the plants, &c., thereby increasing their yield.

Yours truly,

Prof. W. LESLIE ROBINSON,
Analytical and Consulting Chemist.

 Send for Descriptive Pamphlet.

sep., oct., jan., feb., mh., ap—6 times.

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OIL VITRIOL,

SALT CAKE (Sulph. Soda), NITRATE SODA,
KAINITE (Sulph. Potash), CHLORCALIUM (Mur. Potash).
MANUFACTURERS AND MANIPULATORS OF PHOS-
PHATES ON ORDERS AND FORMULAS FUR-
NISHED BY OUR FRIENDS.

To those who want to manipulate their own Phosphates, we offer
a full line of PURE MATERIALS.

Having completed extensive improvements and additions to our
Works, giving us increased facilities, we are now prepared to execute
orders with greater promptness, and deliver goods in much better
mechanical condition than heretofore.

We offer to the Trade the following Goods, all of which
are absolutely Free from Adulteration:

DISSOLVED GROUND BONE,

Containing 3 per cent. of Ammonia.

DISSOLVED SOUTH AMERICAN BONE ASH,

DISSOLVED SOUTH CAROLINA PHOSPHATE,

SLINGLUFF & CO.

OFFICE,
155 W. FAYETTE ST.

WORKS,
FOOT OF LEADENHALL ST.

BALTIMORE.

march—1y

FALL & WINTER DRY GOODS.

A Large and Well Assorted Stock

AT

PRICES TO SUIT EVERYBODY.

Black Silks at 90c., \$1, \$1.25, \$1.50, \$1.75, \$2, and up to \$3.50 per yard—all very cheap. Colored Silks in great variety, at all prices. Black and colored Casimere and French Merinos; Black Alapacas—the cheapest ever offered—at 25, 30, 35, 40, 45, 50c., and up to \$1 per yard. Black Mohairs, in fine qualities, from 60c. to \$1.25 per yard—as brilliant as silk. Black Bombazines from 60c. to \$1.75 per yard.

A full assortment of Fancy Dress Goods of the most fashionable styles. White and Colored Flannels, in plain and twilled, at lower prices than ever known. Our stock is too large to enumerate prices.

Goods for Boys' and Men's Wear in all styles and qualities, including the celebrated Charlottesville Woollens—all to be sold at hard-time prices. White and Colored Blankets in all sizes and qualities. We give extraordinary bargains in this article. So don't purchase until you have examined our stock. Calico Comfortables of our own manufacture at \$1.50 and \$2. Horse Blankets very cheap. Canton Flannels from 10 to 30c. per yard. Bed-tick from 10 to 25c. per yard. Cheviot Shirtings from 10 to 25c. per yard. Bleached and Unbleached Cotton Sheetings and Shirtings retailed at wholesale prices. Table Damask, for table cloths, all pure linen, at 60c. per yard, worth 85c. Doylies or Fringed Napkins from 60c. to \$2 per dozen. Turkey Red Doylies from 75c. to \$2.50 per dozen. Large size Pure Linen Napkins from \$1 to \$6 per dozen. Linen Huckaback Towels at \$1, \$1.25, \$1.50, \$1.75, and up to \$12 per dozen. Red Wine Cloth at 75, 85c., \$1, and up to \$1.35 per yard. Nottingham Curtain Lace at 15c., worth 25c. per yard. Nottingham Lace Curtains at \$2, \$3, \$4, and up to \$20 a set for two windows, worth 50 per cent. more. Tapestry, Brussels, Three-ply, Ingrain, Rag, Cottage, Hemp, and Venetian Carpet in all qualities and prices. Rugs, Mats, Hassocks and Oil-cloths. All-wool Table-Covers at \$1, 1.25 and \$1.50. Piano Covers from \$5 up to \$12. Tiedies in all sizes, in great variety, and very cheap. All kinds of Merino and Lamb's-wool Undergarments for men, women and children, at lower prices than ever known before. Yak Laces from 15c. to 75c. per yard. Ruffles at 20, 25, 30, 35, 40 and 50c. per dozen. Boulevard and Balmoral Skirts in all qualities. Linen Collars and Cuffs in great variety at very low prices. Silk Ties and Scarfs of the latest styles at prices to suit all. Ribbons in all widths and colors at low prices. Silk Handkerchiefs for ladies and gentlemen. Gentlemen's Furnishing Goods in great variety, and at lower prices than usual.

Ready-made Closed Front Shirts of our own manufacture, made of the best Wamsutta cotton, fine Irish linen, and completely finished; have only to be laundried before wearing. Having largely increased our facilities for manufacturing these shirts, we are enabled to reduce the price to \$1. We guarantee them to be in every respect as good as the shirts we have heretofore sold at \$1.25. Open-front Shirts at \$1.25, or six for \$7.

Ready-made Garments for ladies in great variety. Shawls in all sizes and qualities; also a full assortment of Cloaks.

Our stock is worthy of the attention of all purchasers of DRY GOODS, as we show, at all times, an assortment that cannot be surpassed in this city.

We only enumerate a small portion of what we have.

LEVY BROS.,
1017 AND 1019 MAIN STREET,
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Lee's Prepared Agricultural Lime

FOR TOP-DRESSING WHEAT AND GRASS.

This is the season for top-dressing your wheat and clover, and **Lee's Prepared Agricultural Lime** is the best and cheapest preparation for top-dressing it.


COMPOSTING FOR COTTON, TOBACCO AND CORN.

This is generally a leisure season for the farmer, and now is the time for preparing compost for the next crop. Nothing is so good to use in your compost heaps as **Lee's Prepared Agricultural Lime**. Wherever used with cotton seed, barn-yard manure, or muck, it has proved equal, and, in many cases, superior to fertilizers costing fifty dollars or more per ton. Prepared and sold at the low price of

TWELVE DOLLARS
PER TON, CASH.

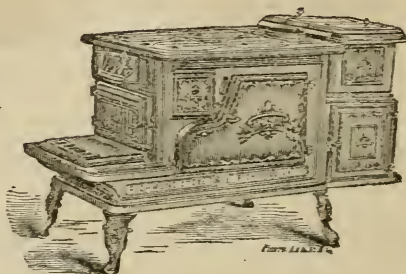
Put up in bags, and delivered at the various depots in Richmond by

A. S. LEE.

 Constantly on hand, and for sale at lowest market rates, **Fine Ground Plaster, Agricultural Salt, German Potash Salts, Shell Lime, Building Lime, Hydraulic Cement and Calcined Plaster.**

THE Richmond Stove Company.

WORKS,
CORNER MAIN
AND
25th Streets.



SAMPLE ROOM
AND
OFFICE,
Corner of Main
And Fourteenth Streets

COOKING STOVES.

Southern Home with reservoir, &c.
Southern Home with square top.
Dispatch with reservoir, &c.
Dispatch with square top.
Va. Air-Tight with reservoir, &c.
Va. Air-Tight with square top.
Lee with reservoir, &c.
Lee with square top.
Carolina with reservoir, &c.
Carolina with square top.
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Patron with square top.
Help with square top.
Gordon with square top.
Southern Planter with square top.
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RANGES.

The Roanoke double oven range.
The Powhatan single oven range.
The Dorcas single oven range.
Hot water reservoirs for the Roanoke and Powhatan.

PARLOR COOKS

Parlor Cook for dining-rooms.
The Richmond Parlor Cook for coal or wood.
The Southern Matron for wood.

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The Woodbine for wood and coal.
The Delight for coal.
The Iron King for coal.
The Iron King with drum, for coal.
The Welcome for wood.
The Genial for wood.
The Comfort for wood.
The Dixie for wood.
The Cheerful for wood.
The Cheerful for coal.
The Radiant for coal or wood.
The Cozy for coal or wood.
The Little Queen plain top.
The Little Queen boiler top.

FRONTS & GRATES, 50 Sizes, In great variety.

Fenders, Summer Fronts, &c.

Stove Hollow-ware.

Country Hollow-ware.

Charcoal Furnaces.

Roll Pans. Coffee Roasters.

Ash Shovels, Cinder Shovels, &c.

All manufactured at our Works, and for sale at prices which leave no excuse for any one buying such goods, made North.

Ask your Dealers for Richmond made Stoves, and buy no other.

Repairs for our Stoves promptly furnished.

Circulars and Price Lists sent free.

10 ROSES MAILED FREE FOR \$1

Splendid assortment of Plants sent safely by express or mail, any distance. Satisfaction guaranteed. Send 3 cent stamp for catalogue. Address,

R. C. HANFORD & SON,
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jan-11

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NEW ILLUSTRATED
DESCRIPTIVE
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SEED ANNUAL 1871

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Our Abridged Priced Catalogue FREE to all Applicants.

jan-11

Z. C. DANIEL,

Breeder of Thoroughbred Stock,

I am breeding thoroughbred Poland China and Essex Hogs, Bronze Turkeys, Light Brahmas, White Leghorns, White-faced Black Spanish and Dark-crested Ducks, all carefully boxed and delivered at depot, with feed for destination. Satisfaction guaranteed.

Bronze Turkey Eggs, \$3 50 setting 12. Light Brahma Eggs, \$2 00 setting 15. White Leghorn Eggs, \$2 00 setting 15. White-faced Black Spanish Eggs, \$2 00 setting 15. Dark-crested Duck Eggs, \$2 00 setting 15.

Eggs for hatching carefully boxed and delivered at Express office. For further particulars address

Z. C. DANIEL,
Twyman's Store Postoffice,
Spotsylvania county, Va.

jan-1y



is the most beautiful work of the kind in the world. It contains nearly 150 pages, hundreds of fine illustrations, and six Chromo Plates of Flowers, beautifully drawn and colored from nature. Price 50 cents in paper covers; \$1 in elegant cloth. Printed in German and English.

Vick's Flower Guide, Quarterly, 25 cents a year.

Vick's Catalogue—300 illustrations, only 2c. Address **JAMES VICK,** Rochester, N. Y.

ELLERSLIE FARM.—

THOROUGHbred AND HALF BRED HORSES,

Pure Shorthorn Cattle & Berkshire Pigs
For sale. Address

R. J. HANCOCK,
jan Overton, Albemarle co., Va.

*

\$5 to \$20 per day at home. Samples worth \$5 free. **STINSON & CO.** Portland, Maine. jan-1y



My annual Catalogue of Vegetable and Flower Seed for 1877 will be ready by January, and sent free to all who apply. Customers of last season need not write for it. I offer one of the largest collections of vegetable seed ever sent out by any seed house in America, a large portion of which were grown on my six seed farms. Printed directions for cultivation on every package. All seed sold from my establishment warranted to be both fresh and true to name; so far, that should it prove otherwise I will refill the order gratis. As the original introducer of the Hubbard and Marblehead Squashes, the Marblehead Cabbages, and a score of other new vegetables I invite the patronage of all who are anxious to have their seed fresh, true, and of the very best strain. **New Vegetables a Specialty.**

JAMES J. H. GREGORY,
Marblehead, Mass.

jan-11

WANTED—The people to know after twenty-five years of successful experience of his own in Virginia, the undersigned offers his services to the people of Richmond and the neighboring country to SET OUT FRUIT TREES AND VINES and prune those already set out, and restore to health declining orchards by clearing the fruit of worms and making it better in every respect. He can supply and set out apple and peach trees and grape vines on very cheap terms. To the owners of orchards now in his charge in the neighborhood of Richmond, and to others whose orchards he has restored, he has leave to refer.

All work warranted to give satisfaction. Certificates as to qualifications from gentlemen near Richmond.

He will also RECLAIM SHADE TREES.

Orders left at King & Todd's store, corner First and Broad streets, or at Leander Woodson's, on the Basin, near Ninth street, will be promptly attended to.

jan-1f

JOHN L. DOWNER.

FLOWER CITY SEED COMPANY

We offer the Best (Seeds Flower and Vegetable) for the of any reliable seed house in the U. S. Catalogue and a sample packet (Violet Corn and Newett Dwarf Aster), free for 10c. **Flower City Seed Co., Rochester, N. Y.**

THOROUGHbred STOCK.

I am breeding
DEVON CATTLE, LEICESTER, SOUTHDOWN and MERINO SHEEP, POLAND-CHINA, BERKSHIRE AND ESSEX PIGS.

My Cattle, Sheep and Hogs took many first premiums at Piedmont, Lynchburg and Richmond Fairs. All bred from the most noted and fashionable strains of Prize Winning stock. Selected with great care from the best herds in the United States. Send for price list. Address

F. W. CHILES,
jan-1y Tolersville, C. & C. R. R., Va.

\$66 a week in your own town. Terms and \$5 outfit free. **H. HALLETT & Co.,** Portland, Maine. jan-1y

RALEIGH,

(Rose of Sharon).

Breeders of high-bred Short-horns will do well to avail themselves of the services of this magnificent young bull at twenty-five dollars a calf. Good care taken of cows at one dollar and fifty cents per month; but all risks entirely with the owner.

I have a constant apprehension, that some Kentucky man will offer a price for this animal which we cannot decline. Address

N. BERKELEY,

Farmer, Virginia A. & M. C. Farm,

feb—tf

Blacksburg, Virginia.

HIGH-BRED AND TROTTING STOCK FOR SALE AT FAIR-LAWN STOCK FARM, LEXINGTON, KENTUCKY.

I offer, at private sale, eighty head of High-bred Trotting Stallions, Colts and Fillies from one to five years old, most of them sired by Almont, who has sired more winners of contested races than any trotting stallion of his age that has ever lived.

Fairlawn is strictly a *Breeding Farm*, with seventy Highly-bred Trotting Brood Mares used for breeding, with the noted Trotting Stallions Almont and Cassius M. Clay, Jr., in use as private Stallions.

The Southern States should diversify their industry and the breeding of highly-bred stock, for which their soil and climate offer peculiar advantages—should be largely engaged in, and will constantly pay large profits if properly conducted.

Liberal terms of payment will be given responsible parties.

For Catalogues, which give descriptions and pedigrees of the stock and *lowest prices*, or other information, apply to

WILLIAM T. WITHERS,

feb—ly

Lock Box 392, Lexington, Kentucky.

ASPARAGUS ROOTS FOR SALE.

I have a large number of "Connovers Colossal" Asparagus Roots for sale, two years old. Price, fifty cents a hundred—two dollars and twenty-five cents for five hundred, and four dollars per thousand. Not less than one hundred sold. Carefully packed and delivered at railroad or steamboat, and, having had extended experience in the cultivation of asparagus for market, I will send with the roots printed directions for its cultivation. Every family in Virginia should be supplied with this delightful and wholesome vegetable. Payment must accompany the order, or, if by express, C. O. D. Address

DR. THOMAS POLLARD,

feb—1t

No. 703, west Main St., Richmond, Va.

BEST COUGH SYRUP, MILLER'S COMPOUND

Syrup of Horehound.

The Horehound Plant is found in every garden in the State of Virginia. Horehound juice stewed with sugar has long been esteemed a valuable remedy in

COUGHS, COLDS AND HOARSENESS,

and many an old "mammy" in the country would have lost all hope, but for this all-powerful, all-healing, all-curing "yerb." The Horehound Cough Syrup, which we offer the public, is a combination of that valued ingredient with Wild Cherry and other ingredients of known merit, which make it superior to all others.

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AT TWENTY-FIVE CENTS PER BOTTLE.**

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{ MILLER & PIERCE'S, cor. 5th & Marshall Sts.,

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Richmond, Va.

CHESAPEAKE AND OHIO RAILROAD.

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CONNECTIONS OF PASSENGER TRAINS FROM RICHMOND.

9.00 A. M. Mail, daily except Sunday—daily west of Hinton. Arrives at Gordonsville 12.45 P. M., connecting with Virginia Midland train at 1.10 P. M., arriving at Washington 6 P. M. for all points North. Arrive at Charlottesville 1.35 P. M., connecting with Virginia Midland train at 1.55 P. M., arriving at Lynchburg 5 P. M. for all points South; arrives at Huntington 10 A. M.

3.45 P. M. Accommodation, daily except Sunday, arrives at Gordonsville 7.30 P. M., connecting with Virginia Midland train at 7.40 P. M., arriving at Washington 11.55 P. M. for all points North.

10.45 P. M. Express, daily. Arrives at Gordonsville 2.40 A. M., connecting with Virginia Midland train at 2.50 A. M., arriving at Washington 7.30 A. M. for the North; arrives at Charlottesville 3.35 A. M., connecting with Virginia Midland train at 7.55 A. M., Arriving at Lynchburg 11.07 A. M. for the South. Arrives at Hnntington 6.45 P. M., connecting closely with C. & O. Packet Steamers or Cincinnati, Louisville, St. Louis, Chicago and all points in the West, Northwest and Southwest.

FROM HUNTINGTON.

4.10 P. M. Mail, daily to Hinton—daily. except Sunday, East of Hinton. Arrives at Charlottesville 11.40 A. M. connecting with Virginia Midland train at 1.55 P. M., arriving at Lynchburg 5 P. M. for all points South, via Virginia and Tennessee Railroad; arrives at Gordonsville 12.35 P. M., connecting with Virginia Midland train at 1.10 P. M., arriving at Washington 6 P. M. for all points North. Arrives at Richmond 4.30 P. M.

10.30 A. M. Express, daily—arrives at Charlottesville 1.50 A. M., connecting with Virginia Midland train at 7.55 A. M., arriving at Lynchburg 11.07 A. M. for all points South. Arrives at Gordonsville 2.35 A. M., connecting with Virginia Midland train at 2.50 A. M., arriving at Washington 7.30 A. M. for all points North. Arrives at Richmond 6.30 A. M., connecting with Richmond and Danville 7.50 A. M., and Richmond and Petersburg 7.25 A. M. Trains for all points South.

N. B.—The 8.10 A. M. train from Washington arrives at Gordonsville 12.40 P. M., and connects with Chesapeake and Ohio mail trains, both for Richmond and Huntington. The 9.50 P. M. train from Washington arrives at Gordonsville 2.40 A. M., and connects with Chesapeake and Ohio express trains, both for Richmond and Cincinnati.

The 9 A. M. train from Lynchburg arrives at Charlottesville 11.55 A. M., and connects with C. & O. mail train for Huntington, and at Gordonsville 12.40 P. M. with C. & O. mail train for Richmond.

The Richmond and Danville and Richmond and Petersburg trains arriving from the South at 8 P. M., connect with Chesapeake and Ohio express train, leaving Richmond at 10.45 P. M. for the West and North.

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jan—tf

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Ornamental Trees in great variety for Parks, Lawns, Gardens, &c.

Evergreens of all sizes, all of the finest quality, and at the lowest rates.

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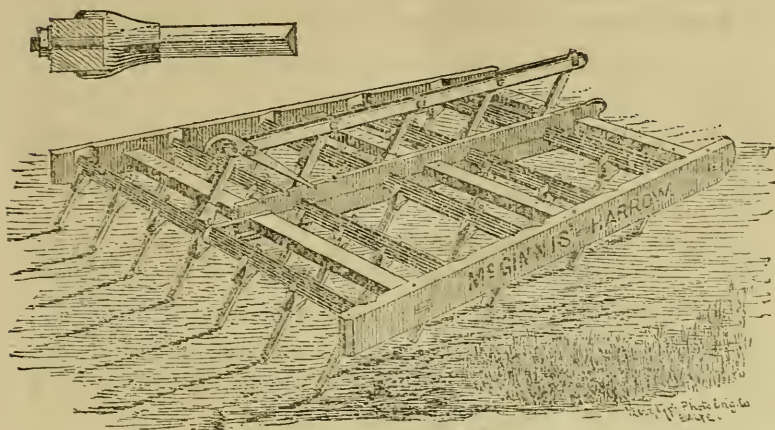
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nov

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The only Ring
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sharp points in the
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**EAGLE BILL
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Only single Ring
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points in the
nose to keep it
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The Double Ring can be inserted with CROSS BAR in FRONT of NOSE or on Top. Should dirt accumulate in top of nose insert so that Cross Bar comes in front and not on top of nose.

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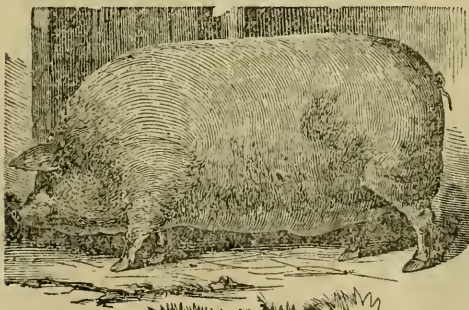
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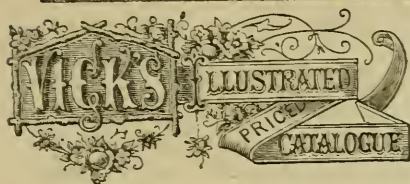
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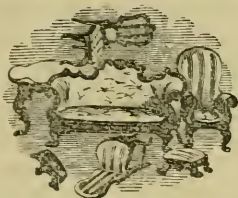
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feb 1t



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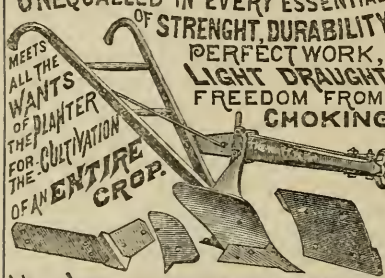
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For which purpose they are superior in every sense.

Our three and four-horse plows, both right and left hand, have

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OVER ALL COMPETITORS.**

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june

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I am breeding Devon cattle, Merino sheep and Berkshire pigs, of pure blood and choice quality. My cattle are bred from the importations of C. S. Wainwright, and Hon. Ambrose Stevens. They are choice breeders and prize-winners. Have taken in the three seasons past, eight herd prizes and over sixty individual prizes in Iowa, Illinois and New York. My sheep and pigs also are of strictly first quality.

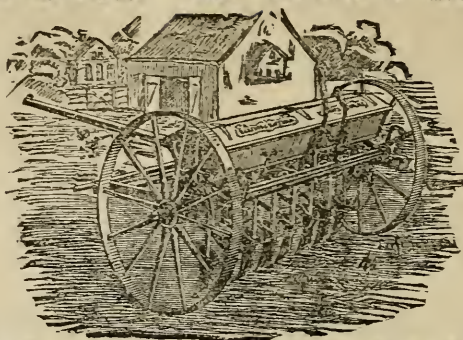
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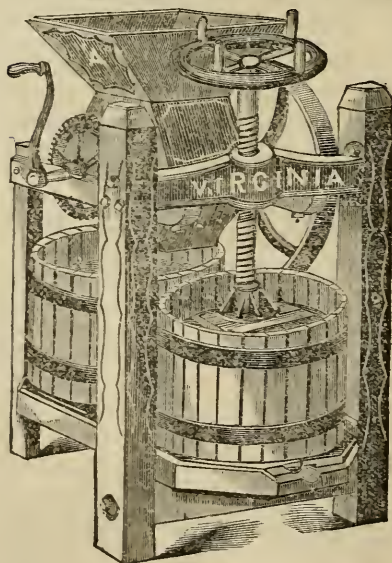
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Breeder and importer of Berkshire Hogs and Black Spanish Fowls, and general live stock agent. Pigs, the get of imported Othello second, and the great Longfellow, Choice Sallie and Sambo Pigs. Send stamp to ensure an answer to inquiries. sep—15

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The subscriber offers for sale a select lot of Berkshires of various ages, bred from stock imported by Hon. M. H. Cochran of Canada, T. S. Cooper and Charles B. Moore, of Pennsylvania, and other well known breeders.

Animals warranted true to description and pedigree, which will be furnished on application. Orders solicited and satisfaction guaranteed. Prices to suit the times.

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
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Sep—1y

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L. R. DICKINSON..... Proprietor.

RICHMOND, VA.,

APRIL, 1877.

No. 4.

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Agriculture is the nursing mother of the Arts.—XENOPHON.

Tillage and Pasturage are the two breasts of the State.—SULLY.

L. R. DICKINSON, EDITOR AND PROPRIETOR

Vol. XXXVIII. RICHMOND, VA., APRIL, 1877.

No. 4

[For the Southern Planter and Farmer.]

HOW LONG WILL THE SOUTH CONTINUE TO BURNISH THE CLUB WITH WHICH TO BREAK ITS OWN HEAD?

When Patrick Henry, from St. John's church, located on Church-Hill, of your beautiful city, uttered the sentiment, "Give me liberty or give me death," he declared to the American people the price and value of liberty.

When Mason, under the same inspiration, wrote, "That all power is vested in, and consequently derived from the people; that magistrates are their trustees and servants, and at all times amenable to them," he simply announced the fact, that the American people were *sovereign*. These two principles have been admitted for a century. Sovereignty, however, is nothing more than the right to exercise the elective franchise—the right of the people to choose their "magistrates." The power to freely exercise this right is liberty. So, then, these two great principles are embraced in the right to vote. Take from the people this right, and they will have neither sovereignty nor liberty.

It is not my purpose to review the past and recall the acts of military governments at the South, with the disfranchisement of our old and best men, that aliens might frame State Governments and make laws for us; nor of the enfranchisement of a people ignorant and just emerged from slavery, admitted by Mr. Morton and others to be unfit to vote, yet, admitted to that right from bitter hatred to the South, well-knowing it must result in her injury, if not ruin; nor of the Administration, asking Congress, with a Democratic House holding the purse strings, for an increase of the army to enable it to fight the Indians, and when the request was granted, perfidiously sent them to the South; nor to point by name to those States, that for ten years have been ruled by men, not one of whom was "to the manor born;" nor of Legislatures, driven from their

Capitols by United States troops; nor of citizens, who have been prevented by military orders, from celebrating the Anniversary of George Washington. I forbear to open afresh the wounds inflicted on my people by military despotism, and write about the near past and present.

A few months ago, the people of this nation (except the Radical party) were appalled. Armed soldiers, raised to fight Indians, took possession of three States, and a part of the fourth, in time of peace. They were stationed at the voting places. Federal officers supervised, directed and controlled the elective machinery of these States. The intent and effect of this was to take from the people the elective franchise—their sovereignty—their liberty. Notwithstanding the force and fraud thus employed, Florida and Louisiana cast their votes against the Radical candidate for the presidency. Foreigners and thieves handled and counted the ballots. Seven whole precincts were thrown out, because unsuited to their taste, and false, but more tasteful substitutes made. In one of these States, the fair majority against the Radicals was 10,000, and a "returning board" reported about 3,000 on the other side. After this manipulation, it held on to both counts, and offered in more than one Northern city to sell the fair and honest return of 10,000 Democratic majority for \$1,000,000. It loved money, but not finding a bidder, went back to its first love, Fraud, and reported the 3,000. Thus were ten thousand votes of free citizens of the South made a subject of traffic by the Radical party, and thus 10,000 citizens of the United States were deprived of liberty.

Frauds patent and monstrous, corruption, venality and rascality, without a parallel in the civilized world were proved, and the Radical party, with a few exceptions, approved and applauded them. Soldiers were collected around the National Capitol, orders of State Courts disregarded. Congress was menaced, and preparation made to place in the Presidency a man, whom the American people, by a majority of a quarter of a million, had solemnly declared they did not want. At this stage, a peace offering was made, in the way of a Commission, composed of members of Congress, Senators and Judges of the Supreme Court. Its members were sworn. Honesty and fairness were hoped for and expected by some. Alas! Alas! This Commission solemnly declared and published, that fraud should be rewarded; that military despotism in the South was right, and her people had no right to either sovereignty or liberty. And the best reason yet assigned for this judgment, is the refusal of our Northern friends to pay the \$1,000,000. The ruling of this Commission, without the warrant of law or fact, is also approved by the Radical party at the North, and this party are largely in the majority. That these people are our political and personal enemies, and for ten years have sought, and do now seek our ruin, is too obvious for any sane man longer to doubt. Our liberties, the value of which is *life* itself, they regard a fit subject of traffic for gold. "Will we of the South continue to burnish the club with which to break our own heads?"

Is there any relief, any remedy? Thanks be to God there is: In the independence and self-reliance of the South only is relief. First, by a calm, united and determined effort, let us keep the State Governments in our own hands. This will secure to us honesty, peace and virtue at home. The second remedy is more difficult to apply, but not less necessary. The South must create a home-market—a home demand for her raw material. To do this, she must, for a time, make a great sacrifice. She must be commercially independent of the North, for at least one year. It is idle to say our people cannot do this. They have done it for four years, in time of war, with every port closed. They can do it in time of peace with every port open. If unable to make this sacrifice for a time only; if unable to resist the temptation to purchase a few goods where they can be had the cheapest, then they are unworthy the rich harvest of prosperity that is within their reach, and worthy only of that misery and poverty that surely awaits them and their children and their children's children. Let us calmly view the situation. The two great commercial staples of the United States are *tobacco* and *cotton*. The former raised chiefly, and the latter exclusively in the Southern States. Where are these manufactured? The former largely at the South, the latter exclusively at the North. What are the results? Most fortunately for Virginia and North Carolina, some of their patriotic citizens, after the war, contributed their energies and means to the manufacture of one of our great staples—tobacco. By so doing, they have saved Virginia, and perhaps North Carolina from absolute ruin. Richmond, Petersburg, Danville, Farmville, Lynchburg, and other cities have grown in population and trade, and a similar result felt in North Carolina. Employment has been given to our own people.

Some of our young men kept at home a home-market for the farmer's products created, and the profits on the manufactured articles realized, have been expended in building up our cities and relieving the wants of our people. Had it been otherwise, no one can calculate the deplorableness of Virginia's condition to-day. In the staple, tobacco, the factory has followed the natural law of business and trade. It has gone to the raw material, and not carried the raw material thousands of miles to the factory. It has been different with cotton—the staple of the world and almost exclusively of the South. It is the employment, and, therefore, the bread of the civilized world; and, though exclusively the property of the South, as to the United States, she receives no great benefit from it. It is manufactured not where it is raised, but in violation of every principle of trade and commerce; the raw material is transported hundreds, and even thousands of miles, to the New England factories. In 1876, the raw material consumed in the United States was 1,356,598 bales—of this, the South manufactured 145,000 bales, and the North 1,211,598 bales. To do this there are employed at the North about 9,000,000 spindles, and, we suppose, about 5,000,000 employees. When we consider the constant employment furnished to so many laborers,

and the vast amount of material worked up, the legitimate proceeds from the same have been ample to convert a barren and poor country to a powerful and opulent empire. And when we add to this the bounty which the government has, for years, bestowed upon these factories in the form of a protective tariff—a bounty sufficient to increase fully one hundred per cent. the cost to the consumer—it is obvious to even the casual observer that New England has grown rich on the property of the South, and the South has become poor.

The European factories are not wholly dependent on the South. The Northern factories are wholly dependent, and consume nearly as much cotton as the whole of Europe. Because of the immense profits realized, they not only supply the demand of the United States, but compete with the European markets. Strange to say, while cotton, almost exclusively manufactured at the North, though raised at the South, receives a protection from the government, tobacco, more generally raised, but manufactured chiefly at the South, receives from the government an onerous tax. Virginia pays annually seven millions of dollars tax on tobacco; her planter is denied the right to sell one pound to a friend, while the circulating medium extended to her by the government is about three millions of dollars—four millions less than her tax on tobacco. Why this partiality in a general government? Some puritanical philanthropist will say tobacco is a luxury. So is money a luxury. The whole of New England pays a tax of \$5,000,000, and has a banking capital of \$160,000,000; Virginia alone pays \$7,000,000, and has a banking capital of \$3,000,000. Why give all the money to the North? But tobacco is a necessity. It enters into the industries of the world, and its moderate use is no more hurtful than coffee or sugar. But why this heavy burden on tobacco, at a time when factories were going up in the South? If Northern cotton factories need protection, why do not Southern tobacco factories need it? There was no such tax until the Radicals possessed the government—until they sought, by every means possible, to impoverish and ruin us. They have made us “the drawers of water and hewers of wood” for them. We toil from the rising of the sun until the going down thereof, and are all the poorer. They can become rich—are becoming richer from our labor. In short, the South is the industrial and commercial *slave* of New England. And if we of the present generation are content to remain so—if self-respect and self-reliance are dead, if the spirit of our forefathers is no longer present with us—let us, at least, be aroused to a sense of the duty we owe to our posterity. If willing to wear this yoke on our necks, let us not place it on the necks of our children. The cotton planters, by raising a half crop of cotton and exporting the same, will realize as much as from a full crop, or by exporting half and retaining in their barns the other half. The withholding of cotton for one year from New England will stop nine millions spindles, and throw out of employment five millions people—about one-eighth of the population of the United States. The direct effect will be to remove the Northern

factories, with their skilled labor, to the South—the factories to the raw material. The South has New England completely at her mercy. For ten years New England has treated the South as her dependent. With the introduction of these factories in the South will follow employment of her labor, the process and profits of working up over a million of bales of cotton, the bounty on the same, cities and towns will grow; a home-market at once created for all she can raise; lands will rapidly advance, and general prosperity and commercial and industrial independence, with its natural fruits.

It is the home-market at the North that prospers the farmer and gives value to his lands. His climate is adverse, seasons are short, labor is high and his lands originally poor. Grain there is worth more than here. But he has a market at his door for everything he can raise—even for the wild berries of the forest. A pumpkin is not permitted to decay in the field, or a tomato in the garden. *No class of our people are so deeply interested in this industrial independence as the farming class.* Our lands, for want of purchasers, are practically inalienable. We are fixtures to the soil, or forced to abandon it for the chance of some other employment. We are *serfs of the soil*, and fast making our children so, or driving them from their homes. Self-preservation demands of us an effort—a strong, united effort to become independent. How? By using, Southern made, everything through the whole catalogue of industries and necessities, and when they are insufficient by the use of only such as are *directly imported through our own ports*. By forcing the machine-shop to come to the timber, the woolen factory to the wool, the tobacco factory to the tobacco, and the cotton factory to the cotton. By ceasing to pay two transportations, in addition to a bonus, or protection to strangers and not to our own people at home.

By means of the Grange agencies and agricultural societies and county meetings, the farmers can organize and practically move in this matter. Determine at once that no more Northern made fertilizers will be used, (for these alone Virginia has spent over a million of dollars annually and received about ten per cent. return). No more fruit trees from Northern nurseries, or old and spurious seed from Northern gardens. Wear Southern made clothing, and if insufficient, French, English and German, directly imported. If New England wants our raw material or patronage, she must bring her factories and her capital to us." It is true, Mr. Hayes has intimated that the Federal Government will legislate for the Union and not against the South. The writer has no confidence in any man who holds an office obtained by force and fraud—nor in the party that used such means to obtain it. He has thrown out gilded baits to every party—not excepting the negroes and Democrats of the South. He is trying to win the favor of all, and the result will be that he will be without a party, and, from necessity, will become the too pliant tool of the extreme Radicals. The South has nothing to expect from a Radical President or a Radical party. Her only safety is in her own strength, and her strength, nay, her very ex-

istence, depends upon her industrial and commercial independence of the North.

Caroline county, Va.

IVANHOE.

[This is the spirit that will save us. It is perfect folly to talk of relief until we become self-sustaining.—ED.]

[For Southern Planter and Farmer.]

GOV. SMITH ON AGRICULTURE AS A SCIENCE.—No. 1.

“Cultivation is the economy of force. Science teaches us the simplest means of obtaining the *greatest* effect with the *smallest* expenditure of power, and with given means to produce a maximum of force. The unprofitable exertion of power, the waste of force in Agriculture, in other branches of industry, in science, or in social economy, is characteristic of the savage state, or of the want of knowledge.”—LIEBIG.

After the unfortunate termination of the Confederate struggle for the right of self-government, I surrendered myself to Gen. Patrick in the city of Richmond, and, as a paroled prisoner of war, left that city with my family early in June, 1865, for my little home of some 200 acres, where I now reside. Travelling in my private conveyance and with a considerable quantity of baggage, I had ample time to observe the desolations of war and to ponder over the melancholy duties of the hour. Reaching home, I found my farm without a rail or a tree to make one, literally a common, and with a 100 head of town stock daily grazing upon it. I recognized the rule of my State, which required the land-owner to fence in his farm, instead of requiring the stock-owner to fence in his stock, and so made no war upon them. But this state of things made it my duty to enclose with the utmost activity. Every thing had to be provided, labor hired, timber bought, hauled and put in position. The consequent expenditure, being heavy, made it indispensable that “the economy of force” should always be considered. While so engaged, I found in my library a school book of my gallant son Austin, who, residing in California where he was rapidly accumulating a fortune, abandoned, at the call of his State, all his advantages, and on Whiting’s staff in one of the earliest of the seven days’ battle around Richmond, marked his devotion to our dear old Mother and Duty, with his life. This little volume, entitled “Familiar Letters on Chemistry and its Relation to Commerce, Physiology and Agriculture, by Justus Liebig, M. D.,” attracted my attention, and I read it with great interest, and, I trust, advantage. In the 10th letter I found the paragraph, which I have put at the head of this article, hoping, if you think it worthy of a place in your valuable paper, that it may benefit some of your numerous readers.

It was my good fortune to attend the first meeting of the State Agricultural Society after the war. It was quite a large assemblage. The general desolation of our State was vividly portrayed, but, the “unconquerable will” remained. All agreed that “cultivation is the economy of force,” but great diversity of opinion was manifested as

to "the simplest means of obtaining the *greatest* effect with the *smallest* expenditure of power, and with given means to produce a maximum of force." The prevalent opinion favored small farms, not exceeding fifty acres. One gentleman, of great practical intelligence, gravely proposed to divide five hundred acres of his farm, which he had abandoned, and which had grown up in pines, because he could not make it pay to cultivate it, into ten such farms and sell them to foreign immigrants, upon such terms of payment, as to time, as they might ask. And then to crown this generous conception, proposed to bind himself to employ them on his farm at fair wages. *when they had nothing to do at home.* This plan I opposed as utterly impracticable, but if practicable, impolitic; and therefore dismissed it, as I now do, from further consideration. But it may be asked, how it is impolitic. And upon this question I propose to submit some remarks.

I have always cherished a profound affection for our State, and believe that the highest and purest civilization known to man was hers; and I have anxiously considered, ever since the termination of our disastrous war, how her striking characteristics could be preserved, in despite of her great social changes, and my conclusion is, that our chief reliance must be upon the land-owner. It is not to be denied that there is something baronial in the broad acres—that in the owner and tiller of one's own estate, large enough, judiciously handled, to put him above want, to enable him to rear and educate his children, and to practice the duties of hospitality, we have man of a higher type than in any other condition of life. The small farmer, with his family, occupying and cultivating his little farm, is utterly incapable of this exalted development, compelled to labor unceasingly and to practice the most rigid economy—a visitor is a positive annoyance, and gives no pleasure to his host, except when he leaves—that important portion of our education which is acquired from association with our fellows, is but little known to them, for they have neither time nor means to give to its acquisition. Domestic training, so invaluable in the formation of character, is rarely undertaken, for the toils of the day require them to retire to their rest at an early hour that they may replenish their wasted energies for to-morrow. Benevolence, public spirit and patriotism are but little known, because rarely practiced. In short, the small farmer's life is one continual struggle, in which all that is noble in his race, is apt to be ground out of him by his unceasing anxiety, care and toil. I do not hesitate to give it as my opinion, that more may be expected, in generous self-sacrifice and service, from the farm laborers of the country, when our country is in peril, than from the class of small farmers to which I have referred. Daily accustomed to intercourse with their employers—frequently conversing with them on the greatest subjects, sympathizing with all that is of interest to them, and habitually listening to discussions by our ablest men upon public affairs—they unconsciously acquire a degree of intelligence and refinement, unequalled by any similar class of laborers in the

world. Thus the independent farmer, and those he employs to aid him, constitute our main reliance for the preservation of those eminent and desirable characteristics for which the Virginian has been distinguished—I may say from our first settlement at Jamestown. I will, however, press this subject no further, lest your readers should regard it as anomalous and not fitting for an agricultural paper; but having sufficiently attracted attention to it, will proceed with other views

It will very naturally be asked, as you disapprove small farms, What size do you prefer? The answer to this question is dependent upon many circumstances—the texture of the soil, the ease with which it can be kept in proper condition, &c. Every farmer knows that it requires more labor, capital and *mind*, to manage a given quantity of land of a heavy clayey texture than it does of a similar quantity, but of a different character. I have already indicated that my policy embraces a two-fold proposition. 1st. That *Agriculture is to be made profitable*. This can only be done by thorough preparation of all seed-beds, a careful selection of the best seed for sowing or planting, the use of the necessary plant food, which can only be known when it is known what the soil contains, in what it is deficient in, and what the crop proposed to be raised requires. With well selected labor and the judicious selection and use of the labor-saving machinery of the day, and a scientific knowledge on the part of the farmer of “the simplest means of obtaining the *greatest* effect with the *smallest* expenditure,” &c., we need “apprehend no unprofitable exertion of power” or “waste of force in agriculture.” It will then be found that such “cultivation is the economy of force” indeed. And with proper management and industry, will ensure to the farmer such a profit upon his capital and labor, as brings me, with the greatest confidence, to the second and by far the most important branch of my proposition—the *training and education of the sons and daughters of the prosperous and educated farmer*. Having demonstrated that “cultivation is the economy of force,” and having, in doing so, secured the means necessary for my purpose, I hope I shall be excused for submitting a few suggestions, which I regard as of much importance, to the formation of the character of the true Virginian. We all know that education begins in the cradle. The first lesson to be taught a child is obedience, implicit obedience to parental authority. How important, then, is it that authority should never be unnecessarily or improperly exercised; but, if wrongfully exercised even, never to yield to the coaxing or fretful importunities of the beloved prattler. Mothers are very apt to be thus overcome, unaware that they are fostering some of the worst traits in our race, and from which they will surely, and it may be, severely suffer. Obedience being thus taught as a cardinal duty, the general plan of education for future life should begin development. All the virtues should be taught and enjoined, while the vices should be rebuked and punished; and this great duty should not be relinquished or relaxed, but should be watched and intensified as the child advances

to his majority. During the period when the ground-work of future character, obedience, is being laid, no inconsiderable knowledge of natural philosophy may be also imparted. A little fellow of six years runs into the house and exclaims, "Mother I am cold." To remove this sensation, warmth is applied by steam or fire, and the child is scalded or burnt. What a field of exposition does this little incident, of occasional occurrence, present? Being himself the illustration, his attention is fixed and his curiosity awakened; and what he may then learn will never be forgotten, and will almost certainly be rapidly extended if proper facilities be supplied. What is cold? What is heat? And how generated? When told that his little body is a living furnace and that what he eats is the fuel, which what he breathes consumes, and that when he ceases to eat and consequently to breathe, the fire goes out, he gets cold and dies—a new world is opened to his astonished gaze, and the chances are, that he would, with energy, explore it; and when told that the amount of animal heat must be the same in every latitude, whether in the Arctic regions or under the Equator, and that this rule applies to all animals alike, he could but see that it was a true economy for every farmer to make all of his animals, himself included, as comfortable as possible, thereby diminishing the amount of food necessary to maintain that vital heat, without which, it is impossible to maintain animal life in proper health and vigor. Here, then, is a most important principle in successful farming, presented in so attractive and demonstrative a form as is not likely to be forgotten or neglected. The vital force, upon which animal life and growth depends, results from food, proper food. How important is it, then, that we should, at an early age, begin to acquire a knowledge of it. According to Liebig, the food of man is divided into *nitrogenized* and *non-nitrogenized* parts—the first intended for conversion into blood, the other intended "to support the process of respiration." The first is chiefly composed of animal and vegetable fibrine, albumen and caseine, but whether animal or vegetable they are identically the same; and the other of butter, sugar of milk, gum, pectine, &c., but both are necessary to life—the absence of either is death. It is remarkable that a knowledge of the subjects to which I have so briefly and imperfectly referred, is an important step forward in the great field of agriculture. Nitrogen constitutes nearly eight-tenths of the air we breathe—it is indispensable to our blood which forms the membranes, cellular tissue, the nerves and brain, of the organic part of the cartilage and bones of our system. According to Ville, it is the "dominant element" in the production of the cereals; and, in short, environs us, whether asleep or awake, like the unseen God, for our good. But, my dear *Planter and Farmer*, while fully aware that I ought to bring these jejune and inconsiderate remarks to a close, yet I will venture to throw out some additional hints or suggestions which may not be unprofitable; as you have the remedy in your own hands, to wit, by refusing to publish them, of which I beg to assure you I shall not complain.

And, why should 'not the young begin to learn, with the ordinary rudiments of a common education that alphabet which constitutes the language of nature, as Ville beautifully terms it. It is only composed of fourteen letters or elements, and with these a knowledge of our own formation, the air we breathe, the food we eat, the mode as an art and a science of raising and preparing it, &c., &c., may be acquired. It will, no doubt, be said that these subjects are incapable of being mastered by the infant mind. Nothing is more common than to underrate the powers of infancy. The first faculty the infant exercises, is *perception*, and that is *spontaneous*. The next is inquisitiveness, and should never be checked or repressed, but encouraged. There are few parents who have not had questions put to them by their little ones which they were unable to answer; many of whom, instead of pleasantly acknowledging the fact and promising an answer at another time, would, it may be, box the little innocents and sternly bid them to hold their impertinent tongues. The consequences are obvious and deplorable. Children thus treated naturally shun their parents, suppress their curiosity, lose the playfulness, vivacity and intelligence expected from their years, and become hopelessly dull and stupid. But if answered pleasantly and frankly, and at night, when the family group is assembled, the little fellow to whose question an answer was promised, is called up, with the remark, "Now, son, for the answer to your question of to-day." And thereupon the proper volume is taken from the family library and the answer read, with such comments as may suggest themselves. He and the little group of curious listeners, which, doubtless, will have gathered around the paternal knee will never forget it, while the parent will find that he or she is greatly improved. It is true, much that I have suggested may not be comprehended by those for whom it is intended, but they will accept as true what they have been told by those they have been taught to obey, while that great faculty, memory, will be strengthened and improved. This faculty is invaluable to the scholar or the man of business, and must be assiduously cultivated; and infancy is, of all other periods of man's life, the most favorable for its improvement. It is to perception, memory and obedience, which makes instruction effective, that our children are chiefly indebted for their early and easy acquirement of our alphabet and indeed of the rudiments of a common English education; and it is to the same agencies, and during the same period of life, we should bring them to some knowledge of the alphabet of the language of nature, and to familiarize them to some extent with the mysteries of their own formation and of all created matter; and so to make learning easy. Surely these letters or elements, only fourteen in number, to wit, carbon, hydrogen, oxygen and azote or nitrogen, known as organic elements, and phosphorus, sulphur, chlorine, silicium, iron, manganese, calcium, magnesia, sodium, potassium, known as mineral elements, can be easily remembered, and from early and frequent use, would become as familiar to us as the English alphabet itself. And when told that these elements enter into the composition of

every living thing, the stock we raise and the crops we cultivate—that ten of them, by the providence of God, are in such abundance, in every variety of soil, as fully to meet all the wants of whatever crop we may undertake to grow, so that man is only required to provide the remaining four, and of them only such as are not in sufficient quantity to supply the wants of the growing crop, to wit, nitrogen, phosphate of lime, potassa and lime, elements with which we are in constant intercourse—that nitrogen is found in every dung heap, phosphate of lime in every dead animal, potassa in the refuse or ashes of the fuel by which the farmer's dinner is cooked, and lime everywhere—that we breathe the organic elements, which largely enter into the composition of our blood and nourishment of our crops. And what is still more remarkable, and as strikingly illustrating the wonderful power of combination, that the same elements which give us the wheaten loaf which supports life, give us the power which destroys it. I was one day talking in this way to some of my plain farmer friends, as I am apt to do, when they gather about me, when I saw from their smile that they doubted me, and I told them so. Of course, I could not let them leave me under any such impression; and I said to them, now my friends you will admit, that our language, which we daily use, and now, in this conversation, is composed of twenty-six letters, being certain agreed signs, of purely human invention—with which we, from constant use, easily express our emotions, as love, hatred, hope and fear, &c.—that we may indulge in the coarsest Billingsgate or in the most refined and polished language, and yet these widely different results are brought about by the same twenty-six letters. Now, how is this? It is that wonderful power of combination which surprises human comprehension. If, then, the invention of man is capable of such extraordinary results, may we not easily believe that God can, with a still smaller number of elements or *letters*, effect still more extraordinary results? The very highest authority, I repeat, tells us that of the elements which, in a greater or less degree, contribute to the growth and formation of animal and vegetable development, four of them, to wit, nitrogen, potassa, the phosphates and lime alone require the careful and diligent preparation of man, upon the intelligent application of which, to the soil, thoroughly or properly prepared, depends all successful farming. Surely any farmer can soon learn all about these four essentials in his business, and then make them a part of his "household words," familiarizing his children to hearing and learning them as they hear and learn our own language. Surely he, if not already enlightened, can find a volume of important demonstration, in the simple and familiar fact of his grazing beef intended for his meat tubs, that the grass he feeds upon, containing all the elements of blood and bone and flesh, of which the animal is himself composed, and that it assumes this new and valuable form by a new and inexplicable process, to be returned when death and decay ensues, after performing other equally important functions to reproduce itself in its form of grass, &c. But enough for the present of

these rambling references to the science of agriculture. If fit for insertion in your valuable paper, I may claim a place in your next number for some equally desultory remarks upon the "Art of Agriculture" as adapted to our present condition.

Fauquier Co., Va.

WM. SMITH.

[For the Southern Planter and Farmer.]

GERMAN MILLET.

Its Origin.—Just after the close of the late war, Mr. David Dis-
mukes, near Shelbyville, Tenn., imported some millet seed from
Germany, and began its cultivation. He was a large stock-raiser,
and by experience had become discouraged with our usual forage
plants. Oats, he said, would fail by the rust; Hungarian grass
would fail by drought; the old-fashioned Missouri millet was un-
certain, too exhaustive, and too coarse; and timothy and red
clover would not answer his purpose. He, therefore, wrote to a
friend in Germany for the seed of the above millet. As he got but
a small package of seed to begin with, he could not dispose of any
seed till the third season. He sold seed for two or three seasons fol-
lowing, for from \$6 to \$8 per bushel. But the plant is so prolific in
seed that the price was soon reduced. Every one that tested the
forage qualities of the plant were more than pleased, and for two
or three years after its merits had been proved, the price of the seed
ruled at panic prices in Middle Tennessee, Southern Kentucky, and
Northern Mississippi, and Alabama.

The high price of the seed induced some unprincipled dealers at
a distance to palm off Hungarian grass seed or old Missouri millet
seed for the genuine German millet seed; and many farmers were
induced to pronounce it a humbug.

However, those who have tried the genuine article, would not give
it up for any other forage plant known. Several years' residence
in Southern Kentucky, where it is universally used as *the* forage
plant for hay, proved to me, as to all others, that it is superior to all
other forage plants. Said one of the best farmers (a man not given
to boasting) in Southern Kentucky: "I would not be without Ger-
man millet for any thing. I would not give one acre of it for five
acres of the best oats I ever saw. For work-stock, it takes the
place of 'roughness' and corn too; and there is nothing equal to it
for milch cows. In fact, I have but one objection to it, it makes my
brood mares and fine horses too fat and unwieldly." And hundreds
of farmers that have tried it will repeat the same.

Time for Sowing and Harvesting.—From the 1st to the 20th of
May is the best time for sowing. Have your land thoroughly pre-
pared by breaking deep, harrowing or rolling; then sow your seed and
then harrow lightly. Sow on rich, *moist* land if you have it. If it
is a good season, it will do well enough on high sandy loam if rich.
Drought injures it more or less, and especially is this the case if the

drought sets in before the young plants get well started. If possible, sow just on the eve of a rain, and then you are pretty sure. On moist land it may be sown at any time up to the 10th of July. If your land is *rich*, and you want it for hay, sow from four to five pecks to the acre; if you want seed, sow about three pecks to the acre. If you cut for hay, cut when the head has begun to turn yellow, but before it has lost all its greenish cast. If you cut for seed, let the head get a full yellow cast. Even when left to ripen for seed, it still makes fine hay. A few square rods left from the hay-patch to ripen, will make seed enough to sow a large crop.

In cutting for hay, cut some clear morning, and cock up in the evening, and as soon as dry, which will be in a few days, house or stack. When cut thoroughly ripe, it may be housed or stacked at once.

The true German millet seed is a miniature buckeye in shape. Be careful that your seedsman does not give you the Hungarian grass seed nor the Missouri millet seed.

Doubtless the *Planter and Farmer* can tell its many readers where they can get the genuine German millet seed; but if not, you can get the genuine article from Chas. F. Potter, Franklin, Ky., or Stockel & Co., Nashville, Tenn. I think Mr. J. W. Otey, near Richmond, Va., has for sale some seed harvested from last year's crop, raised from seed sent by the writer from Southern Kentucky. My word for it, if the readers of the *Planter and Farmer* will try it, they will not regret it.

GRECIAN GREY.

Roanoke Co., Va.

[For the Southern Planter and Farmer.]

COL. WASHINGTON ON THRESHING ORCHARD GRASS SEED.

In reply to your request "to give my method of threshing orchard grass seed," I will say: Any of the wheat threshers with the fan attachment will thresh these seed. The straw should be bound in large sheaves directly it is cut and shocked at once in large shocks. When threshed, the machine must shut out the wind and lessen the power of the fan, so regulating the screen as to keep the machine in good threshing order, and at the same time avoid blowing the seed out with the straw. The best seed will come through the grain spout, the second quality through the screen spout, and a good many will go with the chaff, particularly if there is much clover pug. The clover will carry the seed with it. The first quality is sufficiently clean for ordinary use. For market they should pass once through the ordinary wheat fan, with a fine sieve inserted, the wind turned off or shut out. The second quality will require to be fanned twice. Two hands and a small boy will clean about 30 bushels a day. The cleanest seed will come into the screen-box. Those falling in front must be put back into the hopper. With perseverance, our farmers will become more independent of the North.

Caroline Co., Va.

JOHN WASHINGTON.

[For the Southern Planter and Farmer.]

PARIS-GREEN.

As this is the time for the farmers to prepare to raise their tobacco plants, through your *Planter and Farmer* I wish to give them some advice about protecting their plants against the small black beetle, known as the tobacco plant bug. Experience is the best instructor. I shall give you my experience and that of farmers in Southern Kentucky.

As soon as the bugs are discovered sucking the young plants, go to your druggist and ask for three or four (or more) ounces of Paris-green. (Handle it carefully, for it is a deadly poison.) For a tobacco bed twenty feet square, take one ounce of Paris-green, and mix thoroughly with ten ounces of flower or fine ashes, or dust; put into a thin gauze bag, which tie to a stick three feet long, and dust the bed and plants thoroughly while the dew is on. Hold the stick with one hand and tap it gently with the other, so as to sift the preparation evenly through the gauze. Be sure, while dusting the beds, to keep the bag to the leeward of you.

As Paris-green is not always of uniform strength, it will sometimes require more than the above quantity. If a new supply of the bugs make their appearance, repeat the remedy, and always repeat after a rain, if the bugs are there. But a few applications will invariably relieve you of the pest; and the plants will soon be beyond their effects, by growth. Paris-green is sure death to all animal life, but does not effect vegetable life. Try it and save your plants.

G. G.

Roanoke Co., Va.

[For the Southern Planter and Farmer.]

COMPARATIVE COST OF GRASS SEED TO THE ACRE.

	Quantity of seed per acre.	Cost of seed per bush. in Richmond.	Cost of seed per acre.
Red clover,	$\frac{1}{8}$	\$10 50	\$1 31 $\frac{1}{2}$
Orchard grass,	$\frac{2}{3}$	2 25	4 50
Herds grass,	$\frac{1}{2}$	1 25	62 $\frac{1}{2}$

The accompanying tabular statement will, at a glimpse, convey to the reader the comparative cost per acre of sowing lands in the three grasses therein considered. Timothy suits such a small portion, if any, of each farm in this part of Virginia, that it need scarcely be estimated. On lands that are a little too wet for clover and orchard grass during the latter part of Winter and early Spring, herds grass grows luxuriantly, and on flat lands that are not quite rich enough to make either of the former profitable, it will live, and if not grazed, turf over in a few years. It will yield, on imperfectly drained lands, more hay than any cultivated grass with which I am acquainted.

Every farmer who has secured a stand of this grass, can save seed for himself, by allowing a portion of his grass to ripen its seed before cutting it, and afterwards threshing or flailing them out, thus saving all further outlay for seed—an item by no means to be despised in estimating the comparative merits of grasses. It is generally conceded that the parent acts wisely who selects for his son that vocation in life for which he manifests the most decided genius. Should not something like this rule guide us in selecting grasses for our lands? Herds grass is indigenous here, and should receive the careful consideration of every farmer who is sowing grass upon lands adapted to it. These views are submitted with the hope that others better acquainted with the cultivated grasses and the soil which they suit will express their opinions upon this subject, fraught with the deepest interest to every tiller of the soil.

Will some one, through your valuable journal, give the best modes of saving and cleaning clover seed?

Louisa Co., Va.

F. H. S.

[For the Southern Planter and Farmer.]

“POOR OLD VIRGINIA.”

Run your pen through the next sentence you see with this expression in it, and write in its place “Rich, Young, Growing Virginia.” If a man be poor, does he wish it proclaimed on the housetop? Will the State ever be benefited by such expressions? Will they attract immigrants? Do they encourage our own young men? And, besides, we deny that they are at all applicable to Virginia. She is not poor, but rich—in the stout hearts and brawny arms of her sons; in her long hidden minerals; in her kind and fertile soil; in her incalculable water-power; in her grand sea front; in her heroes, and in her statesmen.

No, this is rich, young Virginia, for her age must be reckoned from 1865; and where will you find another State of her age, possessed of so many growing cities, so many great railroads, so many public schools, so many flourishing colleges, so many thriving industries!

“Lo! old things have passed away, and all things have become new,” and Virginia has entered upon a new era, under new auspices, with new feelings and with new men, and is, we hope, to come forth from her new birth with brighter prospects and a grander aim. She *has* reared a race of splendid gentlemen; she is now rearing a race of noble *men*.

“Great sinewy men that are good to see,”

* * * *

“Brown as walnuts and hairy as goats,”

and among them will be found no “dead-heads.” Nay! those who imagine that this is “*Old Virginia*,” have slept well nigh as long as did Rip Van Winkle, and those who believe this to be *poor Virginia*,

do not remember how hard the times are pressing their neighbors, and how much Virginia has done since she began to breathe again.

This is rich, young, growing Virginia, and her young men are tiring of having immigrants and capital kept out of the State by cowardly and continual whinings about dead issues and great losses.

Whilst the journals of other States are teeming with glowing descriptions of their prosperity and capacities, no man seems to be able to write an article about Virginia without wedging in those two words, which should never again be printed or spoken in connection with her. We repeat, that Virginia is as young as any State, is as rich as any State, and that she possesses as great capacities as any State; and the descendants of her heroes, patriots and statesmen, the *men* of to-day, see in the grandeur of her past, an incentive ever urging onward to a nobler and a brighter future.

The live men of Virginia want all the immigrants who will come; and if more come than can "assimilate" with us, then we will "assimilate" with them; so you can tell everybody to come on, and they will find her *rich, young, growing Virginia*.

Spottsylvania Co., Va.

HOLLADAY.

[For the Southern Planter and Farmer.]

CHIPS FROM VERMONT.

As I have so much I would like to say to my brother farmers of the South, and so little time to say it in, I fear this letter must needs be fragmentary; hence the caption I have selected.

Yesterday I received a letter from Mr. J. H. Tyler, of Dublin, Pulaski county, Va. (and which only reached me by accident, having been simply directed to me, at Windham county, Vt., from the address given in the January number of the *Planter and Farmer*, I suppose), making inquiry in regard to securing seed wheat from the North. I believe this is a move in the right direction, and I shall institute inquiries in regard to it, and will give the result in some future number of the *Planter*. I will only add that I have not raised any wheat for several years, and have none to sell; but I will obtain the address and terms of those who have been successful in raising it, and put those who may wish to buy in communication with reliable parties of whom they may obtain seed. And this matter of changing seed, reminds me of that king of all other crops, viz: Indian corn.

I am buying Western meal, somewhat, this Spring, but I intend that it shall be the *last* season that I shall buy it. I am fully convinced that we lose money on every bag of meal that we buy. Then why buy it? perhaps some one will ask. I am keeping a dairy, almost exclusively, and I do not believe that cows can be kept profitably on an exclusive hay ration, and my pigs, spoken of in the January number, require meal to put them in condition for killing in March. So that the question for me to decide is, whether I will lose

something by buying meal, or lose *more* by not buying it. I believe the true policy of the farmers of this country, both North and South, is to *feed liberally*, and to *raise every pound of the feed they consume*, and I am very much in favor of *consuming all the food we can raise*. Suppose you are keeping a dairy, then I would say, feed your cows from two to four quarts of meal every day they give milk. Are you making beef, then have your animals ready for the butcher at any time after they are two years old, and your pigs, if raising pork, ready in six months, instead of eighteen.

Who does not know that a fat horse will sell six times before you can get an offer for a poor or lean one. And so we might go on to the end of the list; but enough has been said to awaken thought in those who are alive to their calling, and to those who are not, we have nothing to say. It will be apparent to every one, that to insure these results requires forethought; a careful planning for the future, and a thorough execution of the plans laid out. Nowhere should brain and muscle be more thoroughly and harmoniously united than in the farmer. But, perhaps, some one will ask, "What is there *practical* about this talk? how am I to get any *dollars* out of it?" My answer is, what I *intend* to make practical in my own farming, and you know he is said to be a good doctor that will take his own medicine.

Raise fifty bushels ears of corn for every milch cow, beef, horse, and fattening hog, and a little for the stall cattle and pigs: feed it all on your farm, save all the manure you can make, work hard and cut off all unnecessary expenses, and I promise you that you can pay all your debts, laugh at the tax collector, and pay two years subscription to the *Planter and Farmer* in advance, and make editor Dickinson so happy that he will almost forget that he is an editor.

Jamaica, Windham Co., Vt.

J. O. LANPHEAR.

[For the Southern Planter and Farmer.]

ABOUT DRAINING.

There is nothing more essential to the proper improvement of land than draining. In England, where it will pay for the outlay, the subsoil is in many places a net work of tile. In my section—the table lands of King William, which form the water-shed between the Pamunkey and Mattaponi—the land is a stiff clay or based on it, and must be drained to make it pay for the cultivation. For obvious reasons, these drains should be secret or covered. Wood is too perishable to use for this purpose, and tile is too costly, though it is the very thing, if we could afford to use it. To obviate this difficulty, I will give you an idea which has occurred to me, though I do not claim the entire originality. It is to construct a continuous pipe of cement and sand, with apertures wherever they are needed. I have known it used in constructing water pipes, and think it would answer admirably for draining purposes.

The *modus operandi* is this: Dig your ditch where you wish it located, of proper depth, fall, &c. When this is done, begin at the

upper or highest point of the ditch, and dig a small trench in the bottom of the ditch, the size you wish to make your pipe; have your cement and sand mixed, one-third cement and two-thirds sand; lay the mortar one inch thick on the bottom of the trench; then use a smooth, round, wooden rod of the same diameter you wish to make the bore of your pipe, place this lengthwise in the trench, on the soft mortar; then cover the rod with mortar; when it sets, withdraw the rod nearly its whole length, so as to keep the mouth open; then lay more mortar and continue to construct, never withdrawing the rod entirely. When the mortar is in a plastic state, orifices may be made wherever required, and at angles. Where other ditches are to communicate, an arrangement may be made with an aperture to receive the water from the other ditch.

Such is my idea, Mr. Editor. I am induced to believe it will succeed, and think I will try it. I would like to get the opinion of my brother farmers on the subject. The rod should have a hook on one end, to facilitate its withdrawal, and ditch covered as tile ditch.

King William Co., Va.

JOHN LEWIS, M. D.

VIRGINIA: ITS RESOURCES, &c.

Virginia: a Geographical and Political Summary, embracing a description of the State, its geology, soils, minerals and climate; its animal and vegetable productions; manufacturing and commercial facilities; religious and educational advantages; internal improvements and form of government. Prepared and published under the supervision of the Board of Immigration, and by authority of law. Richmond, Virginia, 1876. (Trübner & Co., Ludgate-hill.)

This valuable statistical work (which, as the title indicates, contains much information on the physical features and productions of Virginia) is the result of the labors of a board composed of the Governor and other high officials of the State, created for the purpose of inviting the migratory population of other countries to invest their savings and labor in the large areas of land unoccupied or unsettled in consequence of the change in the labor system and loss of capital resulting from the late war. The first practical step taken was the preparation of the above-mentioned summary setting forth the numerous advantages of the land, and this was entrusted to Major Jed. Hotchkiss, of Staunton, a well known topographical and mining engineer resident in the State, whose personal and professional labors were of great assistance to the Southern cause during the war, and whose ably executed maps of the campaign, made under fire in many instances, were admired by many during his recent stay in London. The maps in the present volume are, besides a clear colored one of the United States (very suggestive of a British origin by its execution) and a commercial map of the world, three different charts of Virginia, one showing the natural physical divisions, another specially devoted to counties, roads, railways, &c., and a third exhibiting the chief geological features (this last by Professor Rogers).

The geological chapters are specially interesting in their analysis

of soils applicable to agricultural purposes, and their account of the various minerals (including gold) known to occur, though their extent is still entirely undeveloped. The most useful appear to be the agricultural (of which the greensand marl, so valuable as manure, is foremost in importance) and architectural minerals; the distribution of the carboniferous strata also receiving much attention. Bituminous coal and natural coke are found in extensive beds in the new red sandstone; the Richmond coal field, equal to the Newcastle district, being the chief. The command of cheap and good fuel, readily transported by rail or canal to the ore-producing districts, must eventually prove of the highest value.

The climate is essentially mean—about 56° mean annual temperature—the State being in the isothermal curves containing the south of England, France, &c. In two years' observations in various parts, the highest recorded temperature was 81° , the lowest 33° . The great variations in the surface naturally give a wide range of climate, but it is very healthy, and favorable for agriculture, the abundance of moisture not being caused by periodically long rains.

For the varied statistics as to the capabilities of the country for rearing stock, &c., we must refer to the work itself; but mention may be made of a special industry—bee rearing—which resulted in one year in the production of 1,008,231 lbs. of honey, and 74,374 lbs. of wax. The number of swine raised in the same year is somewhat astonishing—1,262,707, giving an average of 103 to each 100 persons (the average in Great Britain being $9\frac{1}{2}$ only. It is, however, in its vegetable productions that the chief wealth of the country lies, the native flora being rich and abundant, and the cereals, &c., of temperate climates thriving when introduced. Indian corn is naturally the staple bread grain; wheat, rye, oats, and barley are also largely cultivated. Tobacco is a staple product, and potatoes and hay are grown in large quantities. Fruits of all hardy kinds are unsurpassed in quality. Cotton can be grown profitably, and there appears every likelihood of the growth of flax, jute, sorghum, beet sugar, hemp, and other valuable commercial productions succeeding as soon as attention is directed to them.

The indigenous mammals, birds, and fishes are briefly noticed, but any reference to sporting matters would naturally be out of place in such a work as this.

With regard to the remaining subjects discussed, the details of the means of internal communication and the summary of the more important laws will be found of use to intending immigrants. The most commendable point of the State administration appears to be the facilities afforded for education, the result of statistics placing Virginia in the front rank for the whole world in the higher branches.

There can be little doubt of the utility of such thorough publications as the one now being noticed, and at the present moment there would seem to be the greatest necessity for the American authorities to exert themselves in the dissemination of reliable particulars of the nature discussed in it. We observe, from good American sources,

that the immigration to the United States is falling off to such an extent as to seriously threaten the welfare of the country, a diminution of 38 per cent. having occurred in 1874 as compared with 1873; of 55 per cent. in 1875; and, as estimated for 1876, of 64 per cent., or nearly two-thirds. Emigration of Americans has, on the other hand, increased, so as now at least to equal the half of the immigrants. The Irish especially are falling off as immigrants, their number in 1875 being less than half the average of the preceding five years, and less by two-thirds than that of the preceding thirty years. This represents a serious loss to the aggregate national wealth, the alien population of the States varying from 24 per cent. in Kansas to 70 per cent. in Arizona. The emigration to British North America, judging by our own last report, is rapidly increasing, having been 47,741 in the years 1861-65; 82,569 in 1866-70, and 111,415 in 1871-75.

NOTE BY THE EDITOR.—We published, last month, an article from the *Saturday Review*, London, on Virginia, and have the pleasure now of submitting the above from *The Field, the Country Gentleman's Newspaper*, London, in the same direction. These references to Virginia, and by the most respectable journals in England, cannot fail to render more definite the desire of worthy Englishmen to make our State their own. That is the blood, by distinction, we want.

[For the Southern Planter and Farmer.]

FRUITS OF TIDEWATER VIRGINIA.

Your postal card, reminding me of a promise to continue this subject, duly received. In looking over your December number I find that "Fruit Raiser" recommends certain varieties of the large and small fruits for his section, from which list I propose selecting those which have fruited well on my own grounds and are to be commended either for profit or market. There are sundry points which cannot be too strongly impressed on the mind of the party planting any variety of fruit trees, either for family use or market, in reference to success. Those I may briefly mention are—selection of soil adapted to the variety of the fruit, its proper drainage for health, its fertility and the use to be made of that land for the first five or more years after setting the trees.

To grow wood, the structure to bear fruit is the first object, hence annual cultivation is essentially necessary for all fruits to bearing age. This is my experience after testing Mr. Mehan's grass and sod theory with surface manuring for *newly planted trees*. Manured root crops annually, with clean cultivation, I prefer for the first three or four years, subsequently a corn crop may be taken, followed by roots again. Field peas in the orchard while the trees are young is apt to be followed by damage to the trees from field mice.

A two years' rest in clover and orchard grass, after the trees arrive at bearing age, with a liberal dressing of ashes and bone dust annually to the land, with proper attention to pruning the trees and thinning the fruit *every year*, will, in general, give the best results to all the large fruits of apple, pear, peach and quince.

Peaches, with us, have proved uncertain and not profitable for market. Hale's Early, a failure and long since rooted from our grounds. Troth's Early, so far, our best early peach. Mr. Rivers' seedlings not yet well tested here. Crawford Early and Late George IV., Malta and White Heath Cling, three-fourths of the last three kinds will supply the family well and have a surplus, with five trees, for every member of the family.

Pears.—Of the twelve varieties recommended by "Fruit Raiser," ever one, without an exception, and a dozen other kinds, are to be found in my orchard, either of standards or dwarfs, and many of them I heartily wish were not there.

Since I have the list before me, and my experience with these kinds may be of service to others, I will briefly comment on each kind.

Bartlett.—There are about 600 standards, on high, well drained soil, the best variety for market or family use we have in our State, all things considered.

Of the 200 Dwarf Bartletts, about half now remain. About 25 per cent. were lost in first three years by fracture at the bud; many died outright from overbearing; others failed to grow and were removed; about 10 per cent. rooted from the pear wood and are handsome standards. Would not recommend Dwarf Bartletts.

Dutchess—Both as standards and dwarfs have done well, and rarely blight with me. Some dwarfs fail to grow, but on the whole, it is the best dwarf for gardens and a Fall pear we have for family use. As a market fruit, coming in contact with the Northern grown Bartlett, it fails to pay in average seasons. The peach market often injures the sale of our Bartletts.

Clapp's Favorite—Has not proved a favorite with me, grows rapidly and fruits well, then blights in same rows where Bartletts are healthy; must be pulled quite early, before ripe, for shipping, else it will rot at the core badly; it does not keep well after maturity like the Bartlett, and is certainly inferior to it as a table fruit.

Beurre Claireau—Promises well, tree fruited early, and it was so handsome and large I was induced to plant 25 more trees. Sorry, very sorry I did so. The third and fourth fruiting of these trees has disappointed me by shedding their foliage like the Flemish Beauty, and the fruit cannot mature; it spots badly and is unfit for market.

Doyenne Boussock.—Very handsome fruit, trees have blighted as dwarfs.

Doyenne d'Ete—Fruited well and early; too insignificant and small for either family use or market.

Rostiezer—Is a fair fruit which I prefer to his Buffum, next on this list, which, besides blighting badly, is too small for market and no use in giving it a place over larger and better fruit.

Glout Morceau—Has proved a good grower and healthy tree for the past two years—the fruit hanging late on the tree, has been stolen, so that I have lost the opportunity of testing the quality in eating and keeping of this winter pear.

Lawrence.—Tree grows slow when young, but it makes up for it

on good land after the fourth year. (This is twice mentioned in the list—Laurence and Lawrence), and is one of our best Fall pears.

Beurre d'Anjou.—One of the healthiest trees in the orchard, growing well and regularly; matures its wood so well as to escape blight. It is certainly a first-rate Fall pear for family use, and sells well in the Boston market where it is well known and appreciated.

This ends "Fruit Raiser's" list. Now, there are two early pears which I regard very highly for both family use and market, and which I have reason to believe would succeed well in the Piedmont country.

Buerre Gifford.—The earliest and largest good pear we have ripe for shipping first week in July, about one month ahead of Bartlett. The growth of tree is objectionable and should be *pruned high*, as the fruit is borne in twos and threes on the ends of the branches and the weight causes the limbs to weep.

Hosenschenck (Moore's Pound).—About two weeks in advance of Bartlett, equals, often excels it in size, rarely blights with us; and double worked on other trees six and seven years old, it has given me a peck to the tree the third year. While a handsomer pear than the Bartlett, I do not think it a better dessert fruit—few would complain of it, however, when well ripened *from* the tree, as all table pears should be.

Seckel should never be omitted from a family orchard, and it even does pretty well as a dwarf. We do not find it profitable for market, really, I believe, because we have to ship it in the peach season.

In conclusion, for a market orchard I should plant *Beurre Gifford*, *Hosenschenck*, *Bartlett*, *Beurre d'Anjou* and *Lawrence*.

For family use I would add to the above, *Seckel*, *Duchesse d'Angouleme*, *Easter Beurre*, making eight varieties from the best early to the best latest pears we have. It may be said of the *Seckel* that it grows better in sod in the yard when carefully worked around for several years while young, and makes the handsomest *shade* fruit tree of any kind we grow, naturally, with little attention to pruning. Incidentally here I may remark, that after properly setting and pruning young trees into shape so as to form good open heads, keeping the bodies free from sprouts, very little annual pruning will be required after the third year.

Cherries.—With the exception of the *Early Richmond* and *Duke Cherries* and *Morello Family*, they do not succeed well far from the water. Near our rivers, the *Wax*, *Reime Hortense*, (one of the very best), *Napoleon*, *Bigarreau* and *Black Tartarian*, indeed, all the heart family, do well.

NANSEMOND.

March 19, 1877.

COMMENTS BY "FRUIT RAISER" ON THE ABOVE, AND ON A PREVIOUS ARTICLE BY "NANSEMOND" ON THE SAME SUBJECT.

"Nansemond" in defence of the "Report to the American Pomological Society" referred to, of which he seems to have been part author, makes the singular statement, that this Report was intended entirely as information for the Society,

and not to instruct the fruit growers of Virginia. Then "cui bono?" Certainly it could not have been designed to be laid up among the archives of the Society as a specimen of Virginia literature. The presumption was that it was intended to instruct the present fruit growers, and those who might design to emigrate to Virginia and plant orchards. Such must have been the opinion of the "Editor of the *Planter and Farmer*," or else he would not have introduced it into his columns—and such must have been the understanding of the readers of this journal. Such was the belief of "Fruit Raiser," who thus considered it a fair subject for criticism.

"Nansemond" objects to some of the varieties of pears proposed by F. R.—particularly "Clapp's Favorite," as being more apt to blight than even the Bartlett, as liable to rot at the core, and being inferior to Bartlett in quality. *Doctors* will differ, as doctors, or fruit raisers. In the vicinity of Richmond, in the extensive blight which prevailed several years since, pear raisers did not find the Clapp to blight as much as the Bartlett. In the orchard of the writer, not more than one or two of the former blighted, while six or eight of the latter did. The former does not keep as well as the latter, but is a much handsomer pear (the handsomest probably that is grown) and is generally considered as good in quality as the Bartlett—its beauty will make up for any difference, if it does exist, and persons are very prone to think a handsome pear better than it really is. One of the largest pear growers, near Richmond, prefers the Clapp's Favorite to any other pear, and is designing to set out more of them. Clapp is a very vigorous grower and looks more healthy than almost any other tree in the orchards in this vicinity, and Downing says it is very productive. *Beurre Clairgeau* is another pear "Nansemond" objects to as shedding its foliage. The writer has never noticed this in the orchard he has seen. It is one of the eight pears Quinn (Pear culture for profit) recommends as succeeding well and bearing the highest market price in New York. His list is Bartlett, Doyenne Boussock, Duchess, *Beurre Clairgeau*, *Seckel*, *Beurre d'Anjou*, Lawrence and Vicar of Winkfield. Quinn says the Duchess is the only pear that he has seen to succeed as a dwarf. And we doubt whether even that will not be found ultimately better as a standard. It is said now that the quality is as good, as a standard. When Quinn wrote, (in 1869), Clapp's Favorite had scarcely been known. Vicar of Winkfield, Mr. F. Davis thinks does not succeed at the South.

"Nansemond" speaks of Lawrence being introduced twice in "F. R.'s list. This was a mistake of the printer, for *Seckel*, which no one would think of emitting in a list of pears—a considerable typographical error, but not wonderful in comparison with another made of the writer's chirography recently, viz., "*time enough*" for *fine dirt*. We have found the Doyenne d'Ete to bear well, and my family relish it very much; it may be for want of a better early pear. As far as we know it is the earliest pear, and is valuable on that account. We cannot find in the nurseries the old fashion *June pear*, which is a very good pear and bear early. "Nansemond," in each of his articles, speaks of the Summer Cheese apple being raised in Tidewater Virginia, without a word in its commendation. Now, we consider it worth more than all the other apples put together, which fruit at the same season. It sells better, all the fruit sellers say, in the Richmond market, than any other apple. It is a vigorous grower, attains very large size, bears profusely, and sometimes two seasons in succession. In the writer's orchard, set out in the Fall of 1868, it was the only variety which bore freely. It keeps

until the middle of December, and with care may be kept until Christmas.

We do not understand what "Nansemond," in naming his list of peaches, means, when he says, three-fourths of the last three kinds (Geo. IV., Malta and Heath) will supply the family well, and have a surplus, with five trees for every member of the family.

[For the Southern Planter and Farmer.]

THE RENOVATION OF WORN-OUT LANDS.

The importance of this subject is attested by the frequency with which it is discussed in your valuable journal. It is of vital importance to many farmers in Eastern Virginia, and to me, among that class. I read, with avidity, whatever appears on this subject. All practical writers agree that it must be done by means of green fallows, and that we must begin with the pea-fallow. This was taught by the late Edmund Ruffin, and its benefits have been reaped by some of his disciples in King William County, Va. I have no remarks to offer upon this subject, but I desire further information, and know of no means of obtaining it except by asking questions. Now, will you, Mr. Editor, or some of your experienced contributors, tell us how we can obtain a respectable growth of pea vines upon land that will not produce over one or two barrels of corn per acre? It would be useless to refer us to stable or barn-yard manure. The supply is too limited. If we must resort to commercial fertilizers, shall it be potash, or phosphate of lime, or ammonia? In a word, is there any means of accomplishing this object (the growth of the first crop of pea vines) that is sufficiently cheap, to be within reach of the mass of small farmers, who have little money to spend? I think I hear some one say, "plaster." I am aware that plaster is cheap, and that it acts marvelously well on some soils, but on some other soils it seems to have no effect. If you can give us the desired information, you will confer a great benefit upon a large number; and I will promise to revolutionize farming in my neighborhood in a few years.

AGRICOLA.

Caroline Co., Va.

P. S.—That is an admirable letter of Mr. Jas. G. Tinsley's in the March number of your journal, "about the Cultivation of the Sweet Potato," but it is deficient in one particular. Please ask him to give us definite information about the use of woods-mould and pine tags.

TOBACCO PLANT BEDS.—A gentleman has written to Col. Davie, of the Agricultural Bureau, giving his experience with a tobacco plant bed, which appears worthy of publication. He says he planted a bed in the usual way, and after the plants came up they were all eaten by bugs. He then made a bed, covering it with dry twigs, leaves, etc., and with an ordinary watering-pot sprinkled about one gallon of coal oil over it. This he fired and found it burned elegantly. He then sowed the seed and raised the finest crop of plants he ever saw. He says there was enough scent of the oil left in the ground to keep the bugs away.

[For the Southern Planter and Farmer.]

A NEW HARROW AND ROLLER.

On the 7th of March quite a number of farmers assembled at Bellmont, the residence of Dr. Wm. V. Croxton, in this county, to witness the action of a newly patented combination harrow and roller, invented by Dr. W. V. Croxton and his neighbor, Mr. W. M. Stehley. All were greatly pleased with the working of the implement—a full description of which it is not now intended to give. Suffice it to say, the frame work is triangular in shape, and made entirely of wrought iron; this large triangle is composed of two smaller triangles, hinged at the centre of the harrow on a horizontal rod of wrought iron, which terminates in front in a perch to pull by. The teeth are of steel, securely fastened in grooves between the frame work of the implement. The grooves are so arranged that the set of the teeth can be altered to suit the various uses to which the implement is to be applied. The roller is composed of two sections ingeniously and neatly attached in rear of the harrow; these are to be made of cast iron. The implement, for durability, neatness of construction, facility to handle, and adaptation to the various uses for which it is needed on the farm, and above all, the perfect manner in which it acts, adapting itself to all the inequalities of the surface, and reducing the soil to a fine tilth, makes it a desideratum which will be hailed by all agriculturists who delight in good implements. After testing the action of the implement in various ways on fallowed land, and in putting in clover seed on wheat land, &c., to the entire satisfaction of all present, the company adjourned from the field to the house, where they were handsomely entertained, and partook of a bounteous repast.

After dinner, the Doctor's blooded colts, cattle, sheep, and hogs were inspected, and did as much credit to him as the harrow and roller did to himself and neighbor Stehley. The company then formed a meeting to express their opinions as to the merits of the combination harrow and roller. The sentiment was unanimous, that the implement, with the few unimportant alterations already determined on, was perfect in action, and subserved all the various uses of a harrow and roller as perfectly as human ingenuity could well make it. It was resolved to appoint a committee to express to Dr. Croxton and Mr. Stehley their entire endorsement of the combination harrow and roller, their congratulations for their success, and thanks for the favor they had conferred on the agriculturists by their invention. A copy of the action of the committee is sent to you with this, by the request of the committee.

To Dr. W. V. Croxton and W. M. Stehley:

GENTLEMEN,—The undersigned, a committee appointed by a well attended meeting of the farmers of this community, which assembled on yesterday to witness the operation, on Dr. Croxton's Bellmont estate, of a combined harrow and roller recently invented and

patented by Mr. W. M. Stehley, of the Grove farm, beg leave to make the following statement as the result of the observation of all present without a dissenting opinion.

First. As a harrow uncombined it is a superior implement and works on any surface with perfect effect and satisfaction; that its construction is ingenious and simple, whilst the material (being entirely of wrought iron and steel), renders it all but imperishable; that the simple and (as we believe) peculiar arrangement by which the teeth (which are of solid steel) can be removed and replaced in a few moments, to be used either as a cutting or smoothing harrow, is most admirable, and must, we think, receive the approbation of every intelligent farmer.

Secondly. As a combined harrow and roller, it is by far the most superior implement we have ever seen, or believe to be known to agriculturists. It executes—at the same moment, with ease to the team and with perfect effect—the work of both harrow and roller, thereby saving to the farmer the cost of the roller, team and driver, and the time consumed by them in every operation. To the grass and seed-sower, it is, beyond a doubt, an indispensable machine. Many farmers who sow grass seed upon their wheat surfaces, hesitate, and more positively refuse, to put the harrow upon their luxuriant fields to secure a stand, for fear of pulling up and otherwise injuring the crop. This harrow removes that trouble. In a few minutes you may adjust the teeth so as merely to scarify the surface—as we witnessed yesterday—and the rollers following immediately, secure the seed without possible injury to the wheat, resetting it if torn up.

Lastly. The harrow and roller being constructed upon the hinge principle, adapt themselves most readily to the inequalities of the surface and leave none of it without thorough cultivation. These conclusions, we are instructed by your brother farmers assembled on yesterday, to communicate to you—a service which we now perform with much pleasure and the highest esteem. It was then resolved that a copy of this report and the accompanying account of the meeting, be sent to the *West Point Star*, *Virginia Patron*, and the *Southern Planter and Farmer*, with a request that they publish them.

Committee, {	J. A. LITTLEPAGE,
	THOS. H. CARTER,
	JNO. LEWIS,
	F. GREGORY,
	J. C. COCKE.

TWENTY years ago the product of wool in California did not exceed 200,000 pounds a year. This year it will not fall short of 50,000,000, of superior quality.

[For the Southern Planter and Farmer.]

DIVERSITY OF OPINION.

It is a little strange, and rather puzzling to farmers, whose actual experience is limited in the science of farming, that so many now differ widely among themselves about the things that all are accustomed to do, and have done for years, and at the same time they all hold that their views are right and have been verified by long experience. Their object is one; but the means used for its attainment vary in many instances as widely as the poles. Whoever plants, desires a good, full crop; and all agree that the proper preparation of the land is essential to success. But after all that has been said and written on the subject, it is still an unsettled question as to what treatment the soil should receive to make it continuously remunerative. Without attempting to enumerate the various methods practiced by men of experience, I propose only to speak of two or three things in which I think many farmers err. I think the *protection* of the soil is a subject not well understood or appreciated, even among old farmers. Though a young farmer, I have been closely observant of many things connected with farming, and I have arrived at the conclusion that exposure of the surface to the Summer's sun does our lands more harm than all other things put together. If the land can be covered up during the Summer, its fertility will be preserved. It matters less what the covering consists of than most farmers are disposed to believe. True, a covering that will readily decompose and enter into the soil is better than boards or brush that will not rot, and must be gathered up and burned when we wish to plow up the land; but even boards will protect land from the injury of Summer heat, and the poorest land will become loose and fertile if kept covered with them for a few years—and this, too, without one particle of matter imparted by the boards. But if lands are properly treated they will invariably cover *themselves* up sufficiently for protection. A timothy crop, when suffered to ripen on the land before cutting, the straw dies down into the roots like wheat, and then, if cut close to the surface and taken off, it leaves the land naked, with no immediate prospect of an aftermath to protect the land from the sun; and if there should come, just then, a spell of hot, dry weather—as is very apt to be the case at that season of the year—the land suffers prodigiously. I have had this thing happen with me once or twice in my short experience. Timothy has come to be considered an exhauster, but I believe it exhausts only in this way.

Red clover never exhausts the soil, because it has and leaves a large residue after the mower has taken off all he can get. And then clover has a root that very soon puts up a growth of young sprouts that covers the surface with green. Any old field that produces nothing but hen grass, and a very light crop of that, if fenced up and stock kept off, will grow fertile in three or four years, except galls, and these should be covered with brush from the woods, if straw

cannot be had. Brush cut in summer while the leaves are on, makes a very good cover for galls, but straw is better; and straw will improve land more spread on the surface than if plowed under; and this is some evidence that the land needs cover more than it does admixture. At the same time, all organic matter that enters into the soil improves it; and I believe it is of little consequence what this matter is, whether clover, peas, buckwheat, cornstalks, weeds, the wild grasses, or briars, so that decomposition takes place and the matter becomes well incorporated. Farmers are pretty well agreed as to the importance of having the land covered, and all enterprising farmers use creditable efforts to cover their lands; they buy and sow grass seeds every year, and they scatter them over whole fields without any reference to the strength of the soil; or if there is a difference made, it is on the principle that the poorer the land, the greater the need of grass; and they put the seed down more liberally on the poor places than elsewhere, not considering that all the seed that fall on such lands are thrown away. The seeds sprout and come up as well on poor land as rich; and when the farmer walks over his fields and sees the little clover plants, he thinks he has a fine stand; but later in the year he looks for his clover, and it has all disappeared except on those places where the soil was good and lively. He concludes, of course, that frost or drought took it, and feels worried because he cannot get a stand of grass. Clover is a delicate plant, and unless it has suitable food in its infancy, it does not put out roots of sufficient strength to attach it to the soil, and a very short drought is sufficient to dry it up. But if its life could be sustained in such soil, it would never make a plant of sufficient size to do the land any good. The land must be rich to justify seeding it in clover; and when farmers learn that fact, and save their clover seed at ten dollars a bushel for such lands only as will grow clover, then a vast amount of money now spent for clover seed will be saved, and they will be that much better off. This brings me to speak of the time and manner of sowing clover seed. I believe most farmers sow too early. The warm spells we have sometimes in March causes the seed to sprout, and then a spell of cold comes on, and the development of the plants is so hindered that they do not take hold of the earth, and they perish. Some good farmers hold the opinion that clover is never killed by frost. What a clover plant wants from the time the seed sprouts until its little tap-root shoots down an inch or two into the earth, is warmth, moisture and fertility; with these in sufficient measure, it very soon goes deep enough to protect itself from ordinary drought. Clover is sowed on wheat in my section more extensively than anywhere else, and I always prefer to put it in with a two-horse harrow; and I like to sow just as late in the month of April as the state of the wheat will allow the harrow to pass over it without injury. A few, and very few, of my neighbors put in their seed in the same way; but I do not know one who makes it a point to put it off as late as possible. I have never failed when I followed this plan to get a good stand

wherever the land was rich enough to grow clover. How important it is, then, to have fertile fields.

There never has been a time in the history of the world when the cultivators of the soil were so much interested to know how they may render their lands fertile and reap paying crops, while at the same time many of them are unwittingly impoverishing their lands instead of enriching them. But the most certain and rapid mode of impoverishing land that I have yet seen, is to let it grow broom-sedge in the summer and fall, and let it stand all winter and then burn it off in the spring and plow it up and put it in corn. If I had such a field, and intended to cultivate it in corn, I should plow it up the previous fall; and if I failed to do this, I would turn it under in the spring; and if the corn crop should not be quite so good, I fancy the land would be much better for it. I admit that broom-sedge is not a good fertilizer, but it is much better than nothing. It is a heavy tax on a field to produce a crop of broom-sedge, but if plowed under in the fall in the green state, I cannot see why it should not make the land richer. If plowed under in the spring, it does not decompose readily, but it will do it after awhile, and it certainly does good; but if plowed under in the fall, it will be sufficiently decomposed by spring to put it entirely out of the way of cultivating a crop of corn; but what shall we do with broom-sedge when it comes on the meadows? Whenever it comes thick enough to burn much, first plow up the land and start again. We lose a crop or two of grass by it, but when it comes again it is the better for a little rest. I might speak of other things, but this is enough for the present.

Greenwood, Albemarle Co., Va.

S. M. SHEPHERD.

ENGLISH SPARROWS.—Don't import them into your section of the country. Don't. They will drive out every other feathered songster you have, even to the robins; not even the quail can withstand them. The writer lives on one of the most beautiful avenues in the city of Brooklyn, where the houses are on a large plat of ground, in villa style; the sidewalks broad and well lined with shade trees. Before the English sparrows were introduced, the early Spring and Summer mornings were gladdened with a variety of native songsters carolling to the delicious morning air. Since the aggressive sparrows were colonized, half the exquisiteness of nature has fled. Now, one hears only harsh, twittering notes, and sees short, homely, stocky birds. If you have any sense of beauty and appropriateness, *don't* engraft the English sparrows on your neighborhood.—*Turf and Field.*

GLOSS ON SHIRT BOSOMS.—In answer to a query in last week's *Press* we print the following: Take two ounces of fine white gum arabic powder, put in a pitcher, and pour on it one pint of boiling water, cover it and let stand all night. In the morning pour it carefully from the dregs into a bottle; use one tablespoonful to a pint of starch made in the usual manner; use a polishing iron also.

[For the Southern Planter and Farmer.]

A MEMORANDUM ON MR. LAWES' ARTICLE ON SOIL EXHAUSTION.—By GEN. RANSOM.

[THIS is an exceedingly interesting paper, and we beg our correspondent to keep on.—ED.]

Mr. Lawes, of England, in your February number for 1877, recalls some facts observed in the cultivation and productions of New Mexico, which corroborate his reasoning and substantiate his conclusions. Not that I hope or expect to say anything the equal in merit of so eminent authority, but that I may, perhaps, shed some light upon the broad subject of exhausted soils and cause those most interested to seek for some means, and attempt some reasonable, systematic and persistent measures for the restoration of that fertility to the soil, without which the unproductive capital in land must soon be utterly valueless, this paper is offered for your publication. It will contain neither the scientific research of the chemist, the discoveries of the botanist, nor the experiences of practical agriculturists, but the statement of some indisputable, though apparently singular, facts; the results of some observations through the span of several years, and some conclusions drawn therefrom, with a suggestion or two as to one method of restoring our worn-out lands.

New Mexico needs no description as to locality. Its elevation is upon an average of five thousand feet above the sea; its climate is extremely dry and generally temperate; the face of the country ranging from the loftiest mountains of rugged contour to vast and almost level plains. Timber grows nowhere, except upon the mountains and bordering its streams. It was occupied by the Spaniards soon after the conquest of Lower or Old Mexico by Cortez, and was then inhabited by an agricultural people, the Aztecs or Pueblo Indians, some of whom still remain and practice the same kinds of industries, and, it is believed, in the same manner that their ancestors from their origin pursued. The rain-fall is always very light, and sometimes nothing for nearly or quite a year at a time, except in the mountains. All cultivation is by the aid of artificial irrigation. It would be needless to attempt to discover how long the Aztecs had grown maize before the Spaniards introduced wheat. For more than three hundred years the same fields have yearly produced crops of wheat or corn, and often the one or the other grain successively for unnumbered years. The quantity of the yield is usually dependent upon the more or less abundant supply of water. The most primitive and crudest implements of husbandry are in use. The soil is rarely broken more than a few inches, and never with the mould-board plow. The crops are seeded in the Spring and harvested in the late Summer or early Autumn. The fields that have been cultivated lie perfectly bare and dry from the gathering of one crop to the seeding of the next. The application of manure in any form is unknown in practice. Judging by my own experience, it would be concluded that, under such a system, utter

barrenness would long since have been the result to the soil. Such is not the case. When the fields receive an ample amount of water, the yield is far in excess of what we can attain upon our most choice land. I have known eighty gathered from one bushel of wheat sown, and forty to sixty is the usual return under fair circumstances. It is the hope of the writer that the reader has not been wearied in going over these details. They have been given to prove how little crops actually take from the soil, and to show conclusively to what is properly attributable the great and speedy exhaustion of our soils.

It must not be supposed that the writer entertains the belief that these crops have been grown for three centuries upon the store of fertility originally in the soil of New Mexico. Several times, every year, an application of the most valuable fertilizer containing every principle of plant-food, and, in a form, the best suited to the wants of the crop, has been made. This has been in the *water of artificial irrigation*. This supply has come from the mountain streams, furnished by the melting snows, which, slowly making their way through the different strata of earth, carry in perfect solution the mineral salts and vegetable decomposed matter ready to be appropriated by the roots of the crops. The air has doubtless done its part, but it is notorious that nowhere is found an atmosphere more drier, more free from ammonia or any impurity.

This brings us to the conclusions of Mr. Lawes: "That the *leaching* caused by the constant and superabundant rains has been the *chief* cause of exhaustion in soils." I have put this statement in quotation marks, although the language used is not that of Mr. Lawes. It, however, is the same in substance; and here we may compare the condition of the soil in New Mexico now with that of our own. In the former, fertility is unimpaired. Then, *at no time*, has there ever been enough rain to wet the earth more than a few inches or a foot. When water has been artificially applied, it has been done only when the crops absolutely demanded it, and never in quantity greater than necessity required. Under these circumstances, *leaching* has been impossible in the fields cultivated. Besides, the water of irrigation *has leached* the mountains in its way to the plains, and has continually brought the elements gathered from the snows, the earth and vegetation, and yielded them as reward to the crops, and perhaps left a surplus when distributed. With us the poverty of soil is co-equal with our occupancy of it. The constant stirring from year to year; the continual fall of rain at all seasons and so frequently in quantities greatly in excess of the requirements of crops, and the habitual moisture beneath the surface have all combined to facilitate that *leaching* which has not existed in New Mexico. Artificial irrigation has contributed nothing to the enrichment of the cultivated fields. Its beneficial effects have been observed and admitted where slack-water overflow has deposited accumulated vegetable and mineral substances. We witness the conditions. The cause of difference is believed to be ascertained. In many respects

it is impossible to bring about a similar state there and here. The result to be reached by us is to re-enrich our *washed* out soils; and now, with great hesitation and that want of confidence which properly clings to lack of experience, some suggestions will be briefly stated.

The more compact the soil, the less facility for leaching. Time cannot be allowed for nature to restore the washed fertility. Means are wanting to make applications which would at once render the lands remuneratively productive. Then some practical means must be used to do what is imperative. The lands must be plowed less. They must be seeded with those crops which gather from earth and air plant-food, and those crops must be left in part upon the lands. The surplus water of the surface must be carried away quickly to prevent its dissolving out the valuable elements of the soil. When practicable, artificial irrigation should be tried.

To enlarge upon these heads now would extend this paper to a length tedious, and, perhaps, destructive to any interest in another paper, which you shall have, if this seems fit for a place in your valuable journal.

Richmond, Va.

R. RANSOM.

[For the Southern Planter and Farmer.]

THE GRANGE.

Of all human organizations for the welfare of the great mass of agriculturists, the Grange has the first place, considered in every point of view. It is not a perfect society, and never can be, because of the divergent opinions of human nature, educated or otherwise. It possesses, as a basis, the noblest objects, and proposes to obtain these objects by educating the farmers to think alike and to act together, whether the chief pursuits are the raising of tobacco, grain, trucks, fruits, cattle, sheep or hogs. All of these pursuits constitute an important and distinct branch of farming, and should employ the united testimony of the most successful men in each calling, and they should be willing to impart their knowledge. They can do this through the Grange to a better advantage than they can through any other channel, and if combined and acted upon by the whole fraternity, there would be perceptible improvement. The great objection to the Grange still continues. The farmers will not unite, for any length of time, in anything. They vary about every thing, in small and great matters, and the want of union is the great reason of their want of success as a body. While constituting half the population, they possess little or no influence in the affairs of the government, even in regard to the farming interests; and just so long as they continue to act individually in all matters, just so long will they remain almost cyphers, in all affairs requiring concentration of strength—pecuniary, mental and physical. The want of homogeneous views result in failure, where perfect union is necessary. It is in farming as in other matters, division entails disaster. The vari-

ous German Governments were easily overrun by the first Napoleon ; and but for their different organization in 1870, they would have been conquered again. The farmer has to learn, that by himself he can accomplish but little either in buying or selling, or in reforming many of the iniquitous laws that disgrace the statutes of each State. The future will be no better than the past, unless this fact becomes his second nature, rooted and grounded into every trait of his character. A balky horse spoils a team, and is soon removed ; but in human affairs, balky men continue to obstruct and prevent progress. Unfortunately, there are too many such persons in all organizations, and but for the superabundance of such men in all granges, they might pull together, and by and by be willing to learn that in union is strength, and by division, weakness, and that a house divided against itself cannot stand. This is perceptible in all granges. The greatest good to the greatest number, without oppression to the humblest person, should be the precept inculcated and acted upon. Without this being carried out, the organization accomplishes nothing and becomes a rope of sand. It requires constant teaching, by practical example, that an important object requires unremitting unanimity in all things, and particularly, where opposition is strong and backed up by mind and money.

Several years ago, the Grangers of Wisconsin passed the Potter Law, so-called, and other States prepared to follow in the same footsteps. Lately, the Supreme Court of the United States has decided in favor of the Grange laws, so-called, *i. e.*, that a Railroad Corporation should not have exclusive right to discriminate against each State, by excessive rates on local travel and freights, and light rates on through travel and freights. The farmers of Virginia are charged more for transportation to Richmond than the farmers of Kentucky and Ohio, and it is time their vested rights, so-called, should be resisted.

The new Constitution of Missouri, puts all corporations under control of the Legislature. The State of California taxes all property, church and all other kinds alike, and requires directors of Savings Banks to be responsible for money deposited. The State of Ohio limits the homestead of \$2,000 to forty acres of land. In some other States, Legislators are not allowed to have free passes, to travel by rail or steamboat *ad libitum*—a blind and a bribe to handle railroad corporations tenderly. In Tennessee, a State dog law is adding wonderfully to the increase of sheep, and consequent improvement of soil and general prosperity. The State of California has a greater income from the sale of wool (not the greatest interest in that State) than Virginia has in wheat, her chief marketable commodity.

It requires too much space at present to indicate where and how the Grange can become the medium of advancing the prosperity of farmers, and proportionally, their influence in reforming everything needing reform. While every change is not reform, yet the world generally progresses slow but sure, and if good men would contrive like bad men, the expenses of governments would be curtailed, and

republican institutions make a much better showing than the past twenty-five years has exhibited. The heavy taxation of the whole country, municipal, State and United States, has resulted in corrupting a large portion of the leaders of public opinion, and the revenues have been wasted by misappropriation. And yet the great mass of the people are honest, and if educated in the various organizations of the present day, would soon supersede the political vampires in all bodies, and send representative men, willing and able, to legislate for the good of the people. The farmers can and ought to sustain their organization; and when shorn of some of its impediments or baggage, it will move easier and with greater satisfaction to its large membership. The present is no time for faint hearts or lukewarm supporters, and if the benefits received are not as large as was expected, the fault is not in the organization, but in the support furnished. If members will not supply themselves through the Grange, whose fault is it? Where the right sort of men have run the Grange machine (as it is called by outsiders), the balance sheet shows a favorable result, and the fault, if any, is with the managers or members. Some States exhibit greater profits and less expenses than were expected. The Grange of California saved several millions of dollars to the farmers by shipping direct to England their wheat crop. The State Agency of Ohio, under Col. Hill's management, saved \$800,000 in sales and purchases of \$3,000,000. Wherever the right sort of managers have had the support of the Grange membership, the pecuniary benefits have been large, and should produce more interest and accessions to the Order, and should rekindle the waning ardor of once enthusiastic members. When interest is manifested in anything, and attention judiciously given, success is as certain as that the day follows the night, and if farmers are not willing to continue to waste their time in working land, and paying taxes without reciprocal benefits, the fault is not in the Grange.

Says Schiller: "Divide the thunder into single tones, 'tis but a lullaby for children; but pour it forth in one grand peal, its royal sound shall shake the heavens."

Hanover county, Va.

C. R. C.

CANARY SEED.—With the immensely increased consumption of this commonly used seed, it seems strange that no steps are taken to grow it in our own country. It is as easily produced as wheat or oats, and yields prolifically. Forty or fifty bushels per acre can be readily produced, and while it may not be a hardy plant, it will stand considerable frost, and our seasons will give ample time to plant and mature a crop. A few acres devoted to growing canary seed will return large profits, as it is now all imported and pays duty. Some enterprising farmer can set an example, and not only demonstrate the fact, but put money in his pocket. Let us be producers instead of importers.

[For the Southern Planter and Farmer.]

TUCKAHOE FARMERS' CLUB.

REPORT ON DR. THOS. POLLARD'S FARM.

By request of the Club, your Committee having visited and examined the farm of Dr. Pollard, now report, that they found everything in order and giving evidence of the careful supervision and intelligent management of the owner

The farm consists of twenty-six acres, all arable, and in a high state of cultivation and fertility. A small stream flows through it, which is made available for irrigation. The dwelling and farm buildings are located near the centre, on elevated ground, and command a view of the whole place.

The soil of the upland is a rich chocolate loam, with clay subsoil, resting on granite; while the low ground is alluvium on the same foundation.

From the undulating character of the land, it has a variety of exposures, and is well adapted either to general farming, orchards, vineyards or market gardening, and the Doctor finds his pleasure and profit in diversity of production.

A pear orchard of over a thousand trees, both dwarf and standard, by their fine form and smooth bark, give evidence of judicious care. We noticed but one case of "blight;" efforts were being made to save the tree (a handsome one), but we fear it was past help.

A young orchard of apple trees were looking vigorous and healthy, but here we caught the Doctor napping. A few were girdled by the field-mice, as the mulching had not been removed in time. It was proposed to save them by the "Taliacation Operation."

The vineyard contained Concord, Norton's Seedling, Delaware; were vigorous; trained on trellis and to stakes singly.

Asparagus is grown profitably, netting over \$200 per acre. We noticed that the space between the rows of young orchard was utilized for this crop. Strawberries, to which crop two acres were devoted, were not considered as profitable as asparagus, owing to greater cost of cultivation and picking as well as liability to loss by changes of weather.

We regretted to see a fine sward of orchard grass condemned to the plow, as the wire grass was asserting its superior vitality.

Rye is grown for soiling, and was looking fair for an early cut.

The Doctor has a high opinion of sorghum as a soiling crop—cattle and hogs being very fond of it, and the yield large.

Of hogs, we found the Berkshire took front rank. "Standard Pears" and Berkshires! *Dwarfs* get scant praise and little room on this farm.

We are satisfied that our worthy President has answered the question, "Does farming pay?" in the affirmative.

Very respectfully,

B. PURYEAR,

J. G. BEATTIE.

} Committee.

We had the pleasure of being present at the meeting at Dr. Beattie's, where the above Report was made, and of enjoying his elegant hospitality. In com-

pany with members of the Club, we viewed the premises and examined his nicely cultivated little farm, and his blooded stock of horses, cows and hogs, which were found in good condition and of the best selections. The Doctor's residence is one of the handsomest, if not the handsomest, on the "Grove Road," and is fitted up with much taste. We wish we had many such settlers in our vicinity—farmers of means, taste and skill, in the arrangement of their premises, and in the cultivation of their lands, in the rearing of good stock, and of enlightened public spirit as Dr. Beattie has displayed.—L. R. D.

[For the Southern Planter and Farmer.]

AN INQUIRY.

You will oblige me to state in the next number of the *Planter and Farmer* the earliest period in the growth of corn that the cultivation may be completed and peas sown at the last working, that they may have time to mature and be gathered before turning under the vines for the wheat crop without diminishing the yield of grain.

King and Queen Co., Va.

W. F. BLAND.

We have not much personal experience with peas, but we have consulted Col. Frank G. Ruffin, who gives us the following reply to the above :

"All good farmers, who can do it, prefer to lay by their corn before wheat harvest. This leaves them uninterrupted time to cut their wheat and oats and thresh the one crop and secure the other. The harvest commences about the 20th of June, and then, if the corn when laid by is of sufficient size, there is plenty of time to sow peas among the corn. Later, and even up to the 6th of July, will do perhaps as well. But in no case of corn sown among peas broadcast can many seed be gathered. The corn, if thick and tall enough, will shade the pea crop too much and retard its growth. A much better plan for seed is to sow early, say from May 15th to June 1st, a lot expressly for seed. If the land is fair and the season good, the yield will be about 15 to 20 bushels per acre.

And a better plan of farming than to put corn land with peas in wheat, is to have a pea fallow for wheat, and to repeat the corn land with peas again; or better still, to reduce the width of the rows and have alternate rows of corn and peas, and cultivate the land for a succession of years, alternating the rows every year. No plan will improve land more or give better crops. I have seen a field, of very moderate fertility, cultivated in wheat *every year* for six successive years, increase its yield from seven to twenty-five bushels per acre. But that plan is impracticable in the present disorganized condition of our labor, and I recommend a pea fallow for wheat, under a system which appropriates two fields for wheat to be alternated in wheat and peas."

If ever it was true that Cotton is King, it is not so now. The total value of last year's cotton crop of 4,250,000 bales was about \$25,000,000, but the corn crop of 1,295,000,000 bushels, at the average price of about 45 cents a bushel, is worth to this country no less than \$583,000,000. It makes the largest single item in our agricultural product, and our agricultural product furnishes, in round numbers, about \$4,000,000,000 out of the \$8,000,000,000 produced each year by American labor. Cotton was King. Corn is now a greater King.

Stock Department.

CONDUCTED BY DR. M. G. ELLZEY, AGRICULTURAL AND MECHANICAL COLLEGE, BLACKSBURG, VIRGINIA.

For many kind and flattering notices and words of encouragement, the editor of this department desires to return his cordial thanks; and he once more invites those having experience in any branch of this great business to contribute it for the general good.

EFFECT OF THE POLITICAL SETTLEMENT.

We have been asked by several correspondents what we suppose will be the effect of the political settlement upon the live stock interests. A political essay might appear out of place in these columns: but we never shrink from a plain, unequivocal expression of opinion upon the public affairs of the country. We cannot see that the live stock interests can be separated from the general prosperity or depression of business, which depends, we believe, less upon political causes than many suppose. Unless actual conflict appears to be imminent, political excitement produces no controlling effect upon commerce and trade.

The laws of supply and demand operate potentially in giving character to the business of the country in spite of a very disturbed condition of political affairs.

The administration of Mr. Hayes will, in our opinion, be a very stormy and troublesome one, and the difficulties of the situation will prove too much for a man of far more character and ability than there is any reason to suppose Mr. Hayes to be. Yet, in the midst of all, there is one demand which must be supplied—that is to say, the demand of hungry stomachs that they shall be filled. We do not believe the year will be prosperous or unprosperous because Mr. Hayes sits where Samuel J. Tilden ought to sit, and because the Democrats digged a pit for the engulfment of Mr. Hayes and his Returning Boards, wherein, and at the bottom of which, they presently found themselves all wallowing together in the midst of great confusion. Nevertheless, the Jew stomach must be filled with bull sausage, and the Gentile stomach with hog and hominy, and, at the same time, the back of Jew and Gentile must be clothed upon with sheep's wool to a certainty. Let, now, the Democrats, as soon as may be, ascend up out of that pit, and let them say to their countrymen we have been fooled this once, but our hands are clean; there is no fraud found with us. Like Jack the fool, we will know better next time.

We have been these nineteen centuries or so finding out that a judge is a man, and that if one be filthy before he has been made a judge, he will be filthy still. Furthermore, if a filthy man has been made a judge for a filthy purpose, and by the wickedest man that this century has seen in any high place among nations, no righteous cause can prosper before that judge. If any man shall, hereafter, be heard talking of the Supreme Court of the United States as a bulwark of freedom, let him be set down as an idiot. Let us have no more blind faith in the efficacy of human institutions, but let us have faith in the best horses, cattle, sheep and swine, and continue to breed them, and graze them, and feed them, and if we are skillful enough to produce the best sorts, we shall have our reward. It is our opinion that the greatest curse that has befallen any modern nation is the administration of Grant; and yet, during that administration, Renick rose

to the summit of fame as a breeder, and has made a princely fortune out of the business. Grant set the key-note of the wide-spread official corruption by pursuing such a course as to draw from the greatest man in his own party the scornful declaration that his administration was a great "gift enterprise"—brief words, but of mighty import—signal for a universal uprising of what old Mr. Foote called the gobbling sons of plunder. The civil war, with all its horrors, was no such curse as the administration of this man, Grant, which rendered possible that Mr. Hayes should succeed, by virtue of fraud, to a seat where Washington had sat. Mr. Hayes, in his inaugural remarks, spoke of his predecessors. He has no predecessor in that seat; he is the first creature of fraud who has ever sat thereon. Let us simply tolerate him *de facto*. Let us throw no straw in his way if there be any good in him. Little do they know the strength of the ties that bind together those who have suffered long in a common cause, who believe that it lies in Mr. Hayes' bones to make any serious break in the ranks of the honest people of the South. Let us, then, tolerate this man who sits *de facto* in the seat where Mr. Tilden *de jure* ought to sit, and let us believe that if the Democratic party elects another President and fails to seat him, they are not fit to rule the country: and let us all believe that no matter how bad Mr. Hayes may turn out to be, he must be better than Grant, whose administration, we must believe, was the sum of all villainies; and, therefore, let us stock people betake ourselves to stock-raising with renewed vigor; and, inasmuch as we, here in Virginia, are about to enter upon the business of making a new Governor, we have it in our power at least to go back to Jefferson's rule, and see that he is both honest and competent, so that in the future, as heretofore, Virginia may, by her example, shame those fellows there in Washington in their wickedness. Let us return to the old manly system of voting, so that each voter shall stand up like a man and vote his sentiments in the hearing of the people. Then will stock-breeding be profitable once more in old Virginia—what is left of her—poor, dear old Virginia.

THE PERCHERON-NORMAN STUD BOOK.

This book has been placed on our table by a friend, and, in noticing the work, we propose to give a sketch of this breed of horses, and to express an opinion of their utility and adaptability to the purposes of the agriculturist. The author of this Stud Book is the editor of the *National Live Stock Journal*. It may be supposed that the extensive experience in live stock matters enjoyed by Mr. Saunders would qualify him for the authorship of any book relating to them to which he should devote the necessary time and study. The arrangement of his work is simple and plain, and is intended to embrace all pure bred Percheron-Norman horses imported into this country as well as their pure bred descendants bred in this country, and it is thought few if any pure ones are omitted. In the introductory chapters a brief history of these animals is given, from which the two prominent facts to be condensed are that the original large breed of La Perch were, like all other large breeds of Europe, nearly identical with the Flanders horses, and that copious and repeated infusions of the blood of the Oriental race-horse or so-called Arabian brought the Percheron, of fifty years ago, to the pitch of fame, as a powerful, quick, draught beast, capable of going further and faster with a heavy load than any other beast in the world; a fact which it seems impossible to dispute. A third leading fact, vouched for in published letters of a most competent observer, is that the famous "Canadians" appear to be identical with the Percheron-Norman horses of ante-railroad times.

At page 19, of the introduction to the Stud Book, is inserted a letter from Mr. Edward Harris, of New Jersey, an importer of these horses, who traveled in France and observed the breed in their native place, in which is the statement, "That those who are acquainted with the thoroughbred Canadian horse will see in him a perfect model, on a small scale, of the Percheron horse;" and again, at page 21, the same gentleman writes, "I hold to the opinion that the Percheron blood still exists in Canada in all its purity." In the preface to his work, Mr. Saunders gives the names of the persons who have visited France and imported these animals; but our friend, S. W. Ficklin, of Charlottesville, ought scarcely to have been absent from that list; for whatever credit may attach to the importation of the Percheron-Norman horses into this country, certainly Mr. Ficklin is entitled to a full share of it. We doubt very much whether a better horse of that breed than the Colonel, imported and now owned by Mr. Ficklin, has ever been brought to this country. Mr. Ficklin was also the first to begin these importations after the war, and to recall public attention to these animals, not, theretofore, favorably thought of in this country. In 1849-50 Mr. Ficklin visited France, and, from great experience with staging in this country, was well qualified to judge of the merits of these horses used for similar work in France. So much was he impressed with their excellence that he at once arranged to import two stallions and two mares. Again, as above stated, Mr. Ficklin made another importation, including the Colonel, immediately after the war, and up to that time had imported more animals than any other one person. So great is the respect we have for Mr. Ficklin's experience and judgment, that no doubt our own impressions of this breed have been sensibly modified by his advocacy of it; and certainly the Colonel is the best big horse of any age or breed we have ever seen. Nor do we hesitate in the opinion that the Percheron-Normans are greatly the best of the heavy breeds now extant, since too greatly increasing the size of the Suffolk Punches has well nigh ruined them; and we stand firmly by our opinion. That fifteen and a half hands high, weighing twelve hundred pounds, is the model for the general-purpose horse, including all the purposes of agriculture. Nay more, we believe it susceptible of demonstration, that the best Percheron-Norman horses approach nearest to that model. At page 10, of his introduction, Mr. Saunders states that, "This typical horse, which gave name and fame to the Percheron blood fifty years ago, was from fifteen to sixteen hands high, and weighed from twelve hundred to fourteen hundred pounds."

How was this type reached? We quote Mr. Saunders again from page 9 of his introduction: "It was from these sources alone, viz: from the large and constant infusion of Eastern blood upon the stock of La Perch, already distinguished for the endurance and stoutness of its horses; the natural adaptation of the soil and climate, and the care and attention paid by Government and people who loved their horses and lived with them for successive generations, selecting only the best for breeding purposes, that was formed by gradual approaches that excellent type which finally came to be known and recognized as the Percheron horse." Certainly. That is to say, the further they were drawn away from the huge clumsiness of the immense beast of Flanders and the more of that magic "Eastern blood" they got, the better they became for that distinctive purpose which gave them "name and fame," viz: for use in the diligence, post-coaches and omnibuses of France, their excellence for which purpose first caused the attention of the outside world to be directed to them.

For the purpose of crossing with the common mares of the country, it is claimed that the Percheron-Norman stallions have proven very successful, and

where the mares are well bred, they are frequently both useful and stylish. Our own opinion is, however, that the mares will cross better with thoroughbred and trotting stallions. In a former number we stated that a breed might be reached through this cross equal to the Morgan in style and action, but possessing greater size, having always believed that the Canadians and old Percherons were identical. In the Stud Book before us, we find the same opinion expressed. Mr. Harris, already quoted, speaks again, at page 15 of introduction, to this effect, "That a similar breed (to the Morgan) of larger size and superior qualities will some day spring from the importation of the Percheron, I have not the slightest doubt." If such a result is to be reached, it must be done through the Percheron mare and thoroughbred or trotting sire. We have seen two horses thus produced, which were, in all essential points, big Morgans; and two better horses than they are we have yet to meet with. The Canadian contributed to the formation of the Morgan strain. Inasmuch as the Percheron horses were noted at home for being able to make such time as fifteen or sixteen miles per hour before heavy loads at the trot, it can scarcely be wondered that it should be claimed that they have contributed to the formation of some of our best trotting strains. This race of horses made up, as they are, of a cross between the heavy horse of Flanders and the Oriental race-horse, affords another illustration of the truth of our position—that the infusion of this blood into any stout, common breed will produce a horse of speed and endurance, and capable of going at any gait at which they may be practiced; and further, there does not appear to be much difficulty in establishing a new breed by such a system of crossing. The English Hunters, the Orloffs, the old Percherons, the American Trotters, are all made up on this plan. The same is the case with all the celebrated strains of saddle horses we have ever known anything about. If some man, who has the means, will get a harem of Percheron-Norman mares and breed them to such a thoroughbred as Orion, or Longfellow, or Leamington, or, better, to such a trotting sire as Almont, or Governor Sprague, or Volunteer, and in-breed the offspring with skill to fix the type, he will make better general-purpose horses than any now in existence, including, as before remarked, all the purposes of agriculture. It is to be remarked, as will appear from an examination of the historical sketch appended to Mr. Saunders' Stud Book, that the most successful and useful of the imported Percheron-Norman stallions have not been of the very largest type. If they are bred and valued merely for size, we predict that the value and reputation of the breed will be destroyed. It is a grand mistake to suppose that an extremely large horse is necessary for any of the farmer's purposes. The poor farmer does not want a beast which will either eat up all the grain he can make, or remain on his hands a living skeleton. We have been at some pains to inquire; and a horse weighing two thousand pounds, or near it, always eats as much as two ordinary sized horses. We trust that breeders of the Percheron-Norman horses in this country will steer clear of that mistake and breed rather towards the type of the original Percheron—from fifteen to sixteen hands high, weighing from twelve hundred to fourteen hundred pounds. In that model these horses possess a muscular development, which is wonderful to behold. Unless the talented artist has overdrawn the portrait of Success—the frontispiece of the Stud Book—it would be difficult to conceive of a more perfect model of a useful horse. We had hoped to illustrate this article with his portrait, but give, instead, the portrait of the Colonel, Mr. Ficklin's horse; and we know that, in this case, the horse is better than the picture. According to the drawing, Success exhibits more clearly the Arabian origin than any horse of the



Spencer 201

breed we have seen. This animal is said to be about sixteen hands high, and weighs, when in full flesh, sixteen hundred pounds. The Colonel is rather taller and heavier than that. The head, face, ear and crest are distinctly of the Oriental model. The feet and pasterns, and correspondingly the fetlock joints, are necessarily enlarged to support the weight imposed upon them. To those accustomed to the Conestoga and the lank-headed big horse of promiscuous breeding, it is astonishing to see so fine a head, so intelligent a face, so sprightly an ear on so large a horse. Most of these horses are grey—a very objectionable color—but there are blacks and bays, and from these we should breed to the exclusion of greys. Mr. Saunders gives the model of the Percheron-Norman horse as follows: “Head—clean, bony and small for the size of the horse; ears—mobile, erect, short and fine pointed; eyes—bright, clear, large and prominent; forehead—broad; nostrils—large, open and red within; jaws rather wide; chin—fine; lips—thin; teeth—sound and even; neck—a trifle short, yet harmoniously rounding to the body: throttle—clean; crest—rigid, rather high, and gracefully curved; mane, abundant with silky hair; breast—broad and deep, with great muscular development; shoulders—smooth and sufficiently sloping for the collar to set snug to them; withers—high; back—short and strongly coupled; body—well-ribbed up; round, full and straight on the belly, which is much larger than the back; rump—broad, long and moderately sloping to the tail, which is attached high; hip—round and smooth at the top and flat at the sides; quarters—wide, well let down and swelling with powerful muscles. Dock—strong; tail—long and heavy, and gracefully hanging out from the croup when the animal is in full motion; legs—flat and wide, stand square and firm and well under the body, with hard, clean bones and extra large, strong joints, cords and tendons; short from knees and hocks down; pasterns, upright; fetlocks, thin; hoofs, full size, solid, open, tough and well set up at the heels; height—from fifteen to sixteen and a half hands; weight—thirteen to seventeen hundred pounds; color—various as with other horses, but a clear dappled grey is preferred, as the best of the original breed were of that color; action—bold, square, free and easy, neither forereaching nor interfering; the walk—four to five miles per hour; the trot—six to eight on a dry and moderately level road, but capable of being pushed much faster in the latter gait when required; temper—kind; disposition—docile, but energetic and vigorous; hardy, enduring and long-lived; precocious; able to put to light work at eighteen to twenty-four months old; possessing immense power for his size; never baulking or refusing to draw at a dead pull; stylish, elegant and attractive in appearance; easy, elastic and graceful in motion; no tendency to disease of any sort, and especially free from those of the legs and feet, spavin, splint and ring-bone, grease and founder; an easy keeper and quick feeder.”

MODEL FOR MARE.

With rather less size than the horse, the points and qualities of the mare should be essentially the same, with the exception of possessing a finer head, mane and tail, and a considerably thinner neck.

When in foal, able to work moderately to within a few days of giving birth to it, and a short time after able to resume her work. A careful nurse and a good milker. We shall make no apology for this extended notice of the Stud Book for this breed of horses. They are attracting great attention at this time, and those who wish to try them need not doubt, they can be had in the best model of Mr. Ficklin, at Charlottesville, Virginia. One word in your ear before you in-

vest: "Try the smaller model and finer, from, say fifteen and a half hands high and weighing as little above twelve hundred pounds as they can be had, or get some mares and try the cross with thoroughbred or trotting sires."

FISH CULTURE.

A great deal of interest is being manifested in the work of the Fish Commissioners. Very numerous letters and inquiries reach them by almost every mail. A number of persons appearing desirous of rearing fish for family use. The teaching of the theory and practice of fish culture at several of our schools is diffusing information on the subject among the people. The great fish culture establishments, with improved appliances of all kinds, are cheapening the spawn and young fry, so as to bring it within the means of every one able to control a sufficient amount of water to have fish for family use, by the outlay of a very small sum of money. Spawn of the brook-trout will doubtless soon be in the market at not above one dollar and a half per thousand. In the past three years the price of it has come down from eight to three dollars. W. H. Crowell, Ludlow, McKean County, Pa., offers spawn and young fry at very reduced prices. The Fish Commissioners of the various States and the United States are spreading accurate and trustworthy information among the populace and affording them facilities for stocking ponds and streams, and never at any time heretofore has there been such interest taken in the subject. We predict, that at no very distant day, fish will be as commonly bred by the country people as poultry. Various sporting papers are directing attention to it. Prominent among them, *Forest and Stream*, published at 17 Chatham street, New York—in which journal there is a regular department devoted to the subject, and the best and fullest, as well as the most recent information in print, is found in its columns. There are various works on the subject by Dr. Slack, Thad Norris, Livingston, Stone, and others, costing about \$1.50, from any one of which, sufficient information may be had to enable any intelligent person to rear fish food for his own table.

During the hatching season, from November to March, the public are invited to visit the Virginia hatching houses at Lexington and Blacksburg; and any one, who, during that period, visits Baltimore, and can spare the time, would do well to visit Major Fergusson's establishment at Druid-Hill Park. It is one of the best appointed, most extensive and successfully conducted hatcheries in America. To test for ourselves the fact whether trout can be made vegetarian, we are feeding a few on corn bread crumbs at the Blacksburg hatchery which has been conducted most intelligently by Mr. Henry G. Crowder, one of the students from the College, and thus far they seem to do perfectly well on this diet. A few specimens of land-locked salmon from Maine, now about a year old, are about six inches long, and very healthy and sprightly. Comparing fish with poultry, a great point in their favor is, they cannot come out of the water to depredate in gardens and other forbidden places.

ITEMS.

From the *Live Stock Journal and Fancier's Gazette*, we learn that the question of the importation of American beef is creating in England very serious discussion, and the prediction is, that it will raise questions demanding the attention of the Government and difficult to deal with by legislation, involving in certain contingencies, even the land tenure and laws of primogeniture. We be-

lieve that far too much weight is given to the matter, and that the laws of supply and demand will soon regulate it, if Legislatures and Governments are not too hasty with their nostrums. We shall not be surprised if the ultimate solution of this matter is arrived at in the establishment of country slaughter houses, and getting rid of excessive butcher's profits, which, added to those of cattle brokers and other functionaries standing between producer and consumer, exceed the price paid to the farmer for his animal. Producer and consumer must combine to force the middlemen down to reasonable profits. In the meantime, rinderpest has broken out both on the Continent and in England, and the prospect for the American beef market the coming season is, that prices will be better. We have already expressed an opinion as to the probable decline of the beef supply from the old buffalo ranges of the West.

The Agricultural College has sold a Shorthorn bull to Mr. A. Woodson. Bontourt, and eight Berkshires to various parties at reasonable and satisfactory prices. The inquiry for improved stock is rapidly increasing in Virginia.

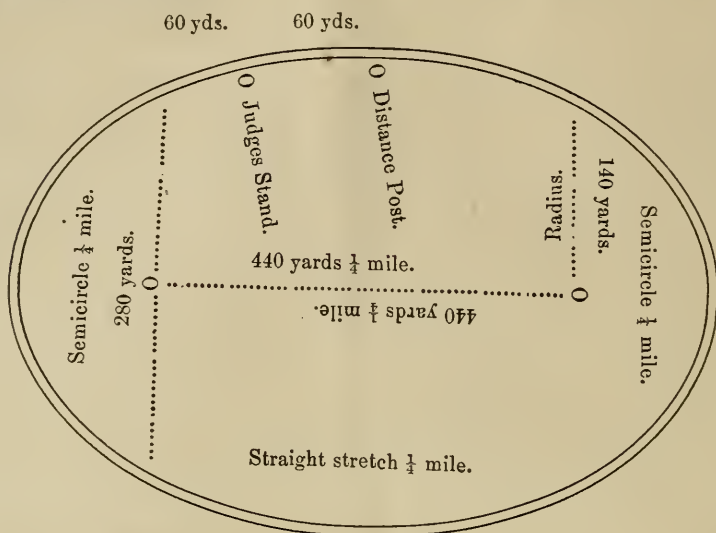
THE Legislature has postponed the dog law. Our opinion upon that subject has been plainly expressed, and our good friend, General Meem, to the contrary notwithstanding, we do not think any man, who does not see the necessity for this measure, has sense enough to be entrusted with public employments, and if seeing the necessity, he has not the courage to apply the remedy, in our opinion, he is unworthy the confidence of his constituents. We do not own a sheep; never owned one, and have always been the possessor of dogs. If sheep owners will not make this matter a test with their representatives and refuse to vote for any but dog-law men, we do not know how far they are entitled to the sympathy of the non-sheep-holding classes. Again, why is it that the Patrons of Husbandry do not make themselves felt on this question? Have they not the power to settle it?

MR. RENICK has determined in future to use in his herd only bulls of his own breeding. Rose of Sharon bulls are also being used by the leading Bates breeders, in England, on their best cows. They are getting very near the tip of the fashion. The only active bull now in Virginia of this celebrated family, and wholly of Renick's breeding, both sire and dam, is Raleigh, belonging to the Agricultural College at Blacksburg now two years past, and an animal of great promise. We call the attention of Virginia breeders to this bull, and advise them to breed some of their best cows to him, which can be accomplished at trifling expense and will never be regretted. Of course, we have no personal interest in the matter, but according to our best judgment, we have never seen a better bull, and would be glad to see the breeders take advantage of his being placed within their reach. His first calves, dropped lately at the college farm, are as good as we ever saw from dams of the same class. One of these calves is a bull, red, with a little white, whose dam was by Earl of Weldon. This calf has three-fourths of Renick's best blood; its grand sire being also Second Earl of Oxford. It can be bought cheap, and would be of value to breed up a plainly bred herd or to grade farm stock. We give this information, not at all in the interest of the college, but for the benefit of our readers.

"The nearer the general purpose horse is to being thoroughbred, *if properly bred*, the better for him and his owner"—*Wallace's Monthly*.

WE are sorry that the article of Gen. Meem, of Shenandoah, in reply to Mr. Nicholson, of Ala., did not reach us in time for the April number, but it will appear in our May number.

TO LAY OFF A RACE COURSE—[From the *American Turf Register and Sporting Magazine*.]—Circumference to diameter as 22 to 7, $880 \times 7 \div 22 = 280$ yards diameter of half a mile circle:



For one mile track consisting of two semicircles and two straight sides of one-fourth a mile each—lay off through the middle of the ground a straight line 440 yards in length, exactly measured, and mark both ends with a stout stake or peg firmly set in the ground. From these points as centres, with a radius 140 yards in length, lay out semicircles, each of which will be a quarter of a mile, and lines drawn tangent to them, on both sides, as shown in the figure, will obviously complete a mile course. By having the centres of semicircles 220 yards apart, we would have a three quarters of a mile track. By reducing all the measurements one-half, a half mile track. A piece of ground 720 by 280 yards will contain a mile track by this plan.

WE are indebted to the kindness of our friend D. C. Clarke, of Clarke & Sneider, Baltimore, for copying the following account from a work in his possession: "Rural Sports," by Rev. Wm. B. Daniel. London, 1807, vol. III, pp. 333.

The late Dr. Hugh Smith related the following tale of a setter, and from which he maintained that a dog and bitch may fall passionately in love with each other. As the Doctor was traveling from Midhurst into Hampshire, the dogs, as usual in country villages, ran out barking as he was passing, and amongst them, he observed an ugly little cur that was particularly eager to ingratiate himself with a setter bitch that accompanied the Doctor. Whilst stopping to water his horse, he remarked how amorous the cur continued, and how courteous the setter seemed to her admirer. Provoked to see a creature of Dido's high blood so obsequious to such mean addresses, the Doctor drew one of his pistols and shot the cur. He then had the bitch carried on horseback several miles. From that day she lost her appetite, had no inclination to go abroad with her master or attend to his call, but pined like a creature in love, and expressed sensible concern for the loss of her gallant. Partridge season came, but Dido had no nose. Sometime afterwards, she was bred to a setter of great excellence, which had been

with no small difficulty procured for that purpose; all the caution that even the Doctor himself could take, was strictly executed to preserve the whelps pure and unmixed. Yet, not a puppy did Dido bring forth but what was the picture in color and appearance of the cur that he had so many months before destroyed. In many subsequent litters, also, Dido never produced a pup which was not exactly similar to the cur.

We ask the attention of breeders to this case, as showing that under certain forms of excitement, the female generative organs may receive a permanent impression from the male without sexual connection, and solely from the force of the imagination.—ED.

A FEW days since, we had the pleasure of seeing *Alcade*, the property of L. A. Coghill, Esq., of King George county, Va. He is a handsome bay, 15 $\frac{3}{4}$ hands high, and weighs 1112 pounds. In company with horses whose time was known, he came down close to three minutes, without apparent exertion, which is remarkable, when it is remembered that his right foot is broken through the ankle joint, is turned outwards, and incapable of motion. His amiable countenance, fine bone, powerful arm and thigh, breasts above the hock, good loin and excellent barrel, together with his superb trotting action, make him a most desirable horse to breed from by all who wish good roadsters, or horses for general purposes. By pedigree, he belongs to the best trotting families now before the public.

L. R. D.

KENTUCKY LIVE STOCK RECORD, FEBRUARY 29TH— NEW YORK LETTER.

Professor Huxley has been waging hot war with the critics of the development theory. He calls them "paper philosophers." His chief objection is that his opponents possess but a small amount of knowledge of biology, and have no sort of squeamishness in criticising adversely his opinions. All this may be very well, but it does not justify Professor Huxley in indulging in so much severity of temper. A man who has not learned to govern his passions in discussion is to be distrusted as to his conclusions, for it is fair to suppose that his want of moderation and self-poise will influence if not bias his judgment in solitary study no less than in public controversy. Professor Huxley lets his anger flash like lightning as he glances on the criticisms of his opponents. This is more to be condemned, inasmuch as he is the champion of a theory which the intuitions of the human mind pronounce to be simply absurd in a degree that is absolutely ludicrous. It is perilous for the most piercing and brilliant genius to set itself in opposition to those primary beliefs of mankind which have regulated thought in every age, and will continue to regulate it in the future. These beliefs cannot be laughed down, and Professor Huxley's lightning and thunder are really as innocent as the mimic thunder storm on the stage in *King Lear*. He who has not learned the fallibility of scientists is still in his leading strings; and he who thinks that any man's opinions may not be called in question, is an intolerant bigot, and deserves to be lashed with the whip of reason and ridicule. The different tribes of animals will continue to maintain their respective identity, notwithstanding the "strong points" of the "development theory" of our philosophers, for as grapes do not grow on thorns, so pigs do not come of opossum, nor chanticleers from the tom-tit—facts which men of science cannot help. Whether this was

always the case, however, is the question between Professor Huxley and his critics. At least the present issue of duplicates of men and animals is secure. Huxley *et id omne genus* to the contrary notwithstanding, as to what once was the course of nature. But enough, we all believe in our descent from a parent stock, and these little speculations are but the pastimes of great men.

EDITORIAL NOTE.—We re-produce the above from one of our most valued exchanges, because it gives some very just views of the remarkable creed of the so-called leaders of scientific thought, a creed from which we utterly dissent.

MESSRS. J. T. & W. S. SHIELDS, Bean's Station, Tennessee, in a private letter says :

"Will try and comply with your request to write an article for your Stock Department before a great while. We have been purchasing improved stock in your State quite extensively in the last few months. The Renick Rose of Sharon bull-calf, 2d Duke of Kent by 2d Earl of Oxford, 6,708, dam Duchess 9th by 13th Duke of Airdru 5,535, &c., purchased of Major John T. Cowan, of Montgomery county, last October, at \$800, has developed to the best yearling bull we ever saw. We also purchased of Mr. George W. Palmer, of Saltville, Virginia, twenty yearling Southdown ewes, and bred them to a ram purchased from A. J. Alexander, of Woodburn, Kentucky. They brought us twenty-four of the most beautiful lambs in February. Our herd of Shorthorns, we consider very promising. We have females of the Rose of Sharon, Nelly Bly, Adelaide, Lady Little and other families, and 2d Duke of Kent at their head."

[For the Southern Planter and Farmer.]

SHEEP FOR VIRGINIA.—No. 1.

You were complimentary enough, more than a year ago, to ask me to write on sheep for your (our) *Planter and Farmer*. Thanking you for your courtesy, I must say that I did not and do not now feel competent to handle this subject in the manner it deserves. I say in all sincerity, I hoped and still hope some one abler than myself will show what sheep-culture can and ought to be made to our State. In the meantime, however, I shall do my *devoirs* in the matter to the best of my ability, and will have accomplished much for the satisfaction of my own conscience, if I can only succeed in inducing a few leading farmers, here and there, to lay hold on this matter in earnest, and examine all its merits. Men of the class I allude to—men of worth and integrity of character, men of judgment and temperate views and opinions, whose example will be of weight and influence with their neighbors—if convinced of the benefits of sheep-culture and zealously and energetically urging forward the interest in their own practice, will do more to inaugurate and sustain an era of private and individual prosperity, and of public benefit to our State, than all the Legislatures that have assembled in Richmond since 1850—more than all the pages of agricultural papers and magazines that have been printed in the State in ten years.

The multiplicity of beneficial results to flow to our State and people; the variety and importance of the interests directly and indirectly connected with, or absolutely incorporated with the energetic pursuit of sheep-culture, is so great that it is extremely difficult to decide upon any systematic course in taking them up for consideration. I shall endeavor, if you can find space for me, to present all the considerations that press constantly upon my own mind in regard to the matter. I do not promise that every topic in connection with the value of sheep-culture shall be discussed separately or fully. But I hope when I stop, the farmers of Virginia will see that there is in the production of wool and mutton a source of wealth, prosperity, comfort and competence, as far beyond all to be derived from the cultivation of corn, wheat and tobacco, as the production of these is beyond the working of gold mines.

As to taxation. The Imperial Government imposes no tax upon the raising of sheep directly. Here, then, is a mine of wealth, I hope to show before I am done, which, if energetically worked by our people, will enable them to escape the payment of such a sum annually to the Imperial Government (that paid on tobacco) as would in ten years, if paid to our own State Government, discharge almost the entire indebtedness of our State. What an hour of joy and pride to a Virginian would that be! I hope we will see, in the course of my rambling sheep articles, that patriotism is still a noble and worthy thing when it does not consist in man-worship; and that Virginia patriotism at this day consists in preserving the honor of our State by paying her acknowledged obligations; and that it is to be consummated in one way by escaping from the payment to the discriminating-taxation, or robber-system of the Imperial Government, of the three to four million dollars annually extorted from our main money crop, tobacco; and following the production of a commodity, or of commodities, that will be just as profitable, or rather more profitable to the producer, and even more capable of bearing taxation to the same amount for the benefit of our own State.

Now it will be necessary to institute a comparison just here. I will assume, without much fear of contradiction, although I have never had any personal experience in cultivating tobacco, that an acre which will net in tobacco one hundred dollars, can be very safely relied on to produce three tons of good hay. This will feed one sheep for six years, according to Randal (three pounds hay to 100 pounds live weight per day), or six sheep for one year, or twelve ewes for six months. Twelve ewes of the proper breed will give, in lambs and wool (\$119.40) one hundred and twenty dollars, and by their manure make three acres of medium land give ten barrels of corn to the acre. This against the one hundred dollars from the tobacco; and taking the twenty dollars in corn at the present prices, and you have corn enough to give the twelve ewes half a pint a day for five hundred and thirty-three days. This is enough. Let any man who understands arithmetic, and has hill-sides overgrown with sassafras, blackberries, broomsedge and wild carrots, while he is

wearing out body, soul and conscience getting his \$100 out of an acre of "low grounds," by the unreliable toil of the semi-savage African, cast up the account, acknowledge the truth, convert his tobacco-house into a sheep-barn, quit paying gold interest on non-taxable Imperial bonds, and wipe out as fast as he can shear his sheep and market his lambs, the stain that now rests upon the name of Virginia. And let the Legislature be forbidden, by a Constitutional Amendment, from eating mutton or wearing broadcloth.

WALTER C. PRESTON.

[For the Southern Planter and Farmer.]

DISEASE IN SHEEP.

My attention has been called to an article in the *Clarke Journal* relative to a disease prevailing recently in that county among the sheep, and attributed to "worm in the head." I have, in old times, suffered from the same disease in my sheep, and know it to be simply an affection of the brain, caused by severe constipation. The constipation is caused generally by feeding on hay, when the ground is covered with snow, and proper care not taken to see that the sheep have water every day. It is not sufficient that there should be water in the field and accessible; but the sheep must be driven to it. When they can get grass or any succulent food they need little or no water.

I have noticed that most of the fatal cases coming under my observation were young ewes in lamb with their first lambs, and generally twins; a post-mortem showed the large intestines filled and impacted with hard, dry fæces, causing inflammation. The best remedy, I think, is injections; but, by taking proper precaution, you will never have the disease.

WM. N. BERKELEY.

[We are glad to hear from Major Berkeley, one of the most enlightened and experienced agriculturists, one of the most patriotic and best informed gentlemen in Virginia, and one of our most esteemed personal friends.—Ed.]

[For the Southern Planter and Farmer.]

REPLY TO COL. S. W. FICKLIN.

In your March number I see a communication of my old friend Mr. Ficklin, and feel disposed to respond to him, if agreeable to you. General Meem will undoubtedly respond to your request on him. Mr. Meade never had pure but mixed bred sheep. The time Mr. Ficklin refers to of my having blooded stock was fifty years ago. I had the pure Cotswolds—imported always the winners of the high prizes of the Royal Agricultural Society of England; of course could never have a large flock, and of course won all the high prizes. I never sold thoroughbreds for mutton; one of my *yearling* thoroughbred bucks weighed 430 pounds. The muttons I sold for \$10 each (I never sold for less); were yearlings and from grass; had never had grain. If a farmer sells all his muttons as yearlings, he can keep more ewes. I sold thirty-five two-years-old at \$35 each, fed on

grass, to a New York butcher, who offered me \$100 each for my flock; and three of mine, fed on grain, sold for \$250 to Philadelphia. They netted 234, 202, 192 pounds—the last two were twins. All my sales were on the farm; never sought a sale; butchers came from New York, Philadelphia, Baltimore and Washington. Cannot this be brought about again?

In making my comparison between cattle and sheep, I estimated both on the same grass and no grain to either. The seven sheep to one steer was not my estimate, but of the most judicious graziers of our country. If seven muttons, fed on grass, in one year will bring \$70 in mutton, in the two years I sell another seven, making \$140 in mutton alone, besides the fourteen fleeces in the two years. Now, Mr. Ficklin puts short-horn cattle *two and half years old* at \$55 the *highest price*, and no fleece; the comparative profit speaks for itself.

I hope it will not be thought I am opposing cattle-raising. Far from it. I am in favor of it, when we can raise both profitably; why neglect either? I kept short-horns and Cotswolds. Mr. Ficklin's excellent letter is correct about "the sheep going to the dogs;" and also "of getting up an excellent average flock;" about "long-wools not doing well crowded in folds or pastures," I could never get ahead enough to judge. In England they have them in large flocks. My theory is no sheep do well *crowded*.

Mr. Ficklin judiciously advises farmers to select to suit their region of country. Good growth of grass suits short-horns and Cotswolds; they ought to go together; they are too heavy to travel so much to get a sufficiency to lay down and ruminate like cattle. A shorter grass suits the Devon cattle and South Down sheep; *they* ought to go together. England dates her improvement in agriculture from sheep and consequent turnip raising; but they have only mutton sheep that void like calves. Let any farmer crowd his farm so as to destroy his grass, and he will find he will very rarely have a mutton; will reduce his land to poverty, and disgust him with sheep, when the fault lies in himself.

Clarke county, Va.

J. W. WARE.

A townsman recently lost a cow from being choked. Let me tell you of a simple and perfectly harmless remedy, that has been tried in dozens of cases, and has never failed. Take a tablespoonful of saltpetre, open the animal's mouth, and throw it well back on the tongue, let the animal go, and it will either go up or down in a very few minutes. *Don't forget it*, for I know it is infallible, and it may save you a hundred dollars.

J. O. LANPHEAR,

Jamaica, Windham county, Vt.

[For the Southern Planter and Farmer.]

FATTENING CATTLE.

Having lately become a subscriber and reader of the *Planter and Farmer*, and in looking over the January number, I noticed a request by A. T. Ward, and also by your editorial to Mr. Ward's letter, that some one that was engaged in stall-feeding cattle would give some information on the subject, I will give my experience and also my opinion in regard to stall-feeding cattle. I have been stall-feeding cattle for about thirty years, every year, and I believe I was about the first man that adopted the plan of stall-feeding cattle in the county. Some of my neighbors say that I have the reputation of being the best cattle feeder in the county of Rockingham—but let that go for what it is worth. But I do think, if thirty years' experience is worth anything, I ought to know something about it. I have my stalls put up in the lower story of my barn; I have my stalls made with gates put up in a cheap way; have the stalls about two feet ten inches wide—which is wide enough for any common-sized steer; if they are any wider, small cattle will sometimes turn round in them, which they ought not to do. I don't keep my cattle in the stable through the day. I turn them out every morning as soon as they are done eating their feed. I think it would pay any man that wants to feed cattle for any length of time to put up stalls. I am satisfied that I can fatten my cattle with a great deal less grain, and can fatten them much more evenly. Some cattle require more feed than others; some cattle are greedy eaters and some are very slow eaters. When fed out of doors some get more than their portion, while others don't get their portion. I have my feed-boxes so arranged that each steer has his feed to himself, and can eat it at his leisure. I think I can feed my cattle with a good deal less labor in stalls than I can feed them out of doors. I have feeding-rooms to run along the whole length of my stalls, and I keep my grain in boxes in my feeding-rooms; and I have my rough feed in my barn, so that it is all convenient.

You stated in your editorial to Mr. Ward's letter, that you did not think that young, wild cattle could be fed on grain enough in stalls to keep them from falling away. I think you are mistaken about this. I feed from twenty to twenty-five head of cattle every year for the beef market, and I purchase my feeding cattle every Fall, and sometimes get some quite wild cattle, and sometimes have a good deal of trouble for a few days to get them in the stable; but they soon become used to it and go in without any trouble, and they fatten as well as any of the other cattle; and when I feed all Winter, I put on from 200 to 250 lbs. to the steer, and sometimes more than that.

I was very much surprised at your statement about Mr. Palmer feeding a lot of cattle on grain all Winter and their losing a hundred pounds. I think there must have been something wrong about the feeding. The cattle-feeders in my neighborhood who feed their cattle on grain in the Winter, very nearly all stall-feed their cattle.

Rockingham county, Va.

DAVID BEAR.

[For the Southern Planter and Farmer.]

HOGS.

In the agricultural journals about five or six years ago I saw an article on hogs, which recommended that pigs should farrow in March, and if fed liberally could be made to weigh from 150 to 200 pounds by November. I thought I would try it, for the theory was a good one. I knew all animals required more food in Winter than in Summer, and consequently all I gave them in Summer was made into meat. March 5th, 1873, my sow (for I only have one, and that a thoroughbred Chester, pigged February, 1870) had 9 pigs, and raised six of them. November 14th, killed smallest and it weighed 130 pounds. November 19th, killed other 5, age 8 months, 14 days old, weighed on an average of 220. Same sow, the 1st of March, 1874, had 9 pigs, raised 8; and, November 12th, they were killed and weighed 170 pounds. February 27th, 1875, same sow had 15 pigs, raised (after giving and selling 5 of them away) 9, and they averaged 206 pounds November 17th. March 10th, 1876, same sow had 16 pigs, ate 4, 1 died or was killed; November 11th, sold 11 for \$82.00, and killed 4 averaging 175 pounds each.

Now this is hard to beat, and many will ask how it was done. I will state they were fed regularly and liberally with a variety of cheap food, what is usually wasted—such as slops, bad apples, roots, &c. My time for feeding high is commenced in August, and kept up till killing time. I have 3 acres of orchard and 11 acres of grass they run in with other stock, except orchard, which they have all to themselves. In the last two years I've kept from 800 to 1,000 pounds for home use and sold over \$80 worth each year. My sow is rather small. I took her to the P. A. Society and she failed to take the premium over some which I'll guarantee has never done the half mine has, although I attach no blame to the judges, for every hog on the ground was better looking than this old profitable Chester sow. I have aimed to cross on the black breed as I could best secure, such as grade Essex and Berkshire. The cost of raising hogs with me has been from 2½ to 3 cents per pound. Trusting that these few lines may benefit the readers of your excellent journal, I submit.

Stevensburg, Culpeper Co., Va

T. R. COVINGTON.

[For the Southern Planter and Farmer.]

BERKSHIRE HOGS.

Your printer made several mistakes in my article in your March number. The third sentence of second paragraph should read, "I keep a gelding to work under the line, and three brood mares to each three-horse plow—one of the three mares being generally heavy with foal or suckling."

The word "preference" in the eleventh line from bottom should be *prejudice*, &c., &c.

You ask for my views as to best breed of hogs for the South. I have had no experience with any of the improved breeds except the

Berkshire. These meet my entire approbation for a farm hog in every particular, except that they are rather nervous unless they are kept so gentle that you can rub or scratch them—a fault that might be easily overcome by breeding, if they would breed their ears somewhat larger and not so erect. But the *fashion* is all the other way now-a-days.

They are good mothers and very prolific, breeding every pig of the litter about the same size—it matters not how many the litter numbers. Exceedingly industrious and easily kept fat and flourishing; free from mange, and being black, the rogues cannot see them so well at night. They usually average 200 lbs. dressed meat, at 18 or 20 months old, with ordinary farm keep, and that of the best quality, especially the hams. I know of no breed that can excel, and none to equal them, unless it be their close kinsman, the Essex.

Albemarle Co., Va.

R. J. HANCOCK.

THE LAW ESTABLISHING A DEPARTMENT OF AGRICULTURE, MINING AND MANUFACTURING.

1. Be it enacted by the General Assembly of the State of Virginia, that the Governor of this State is hereby authorized and required to establish a department of agriculture for the State of Virginia.

2. That said department shall be under the control and management of one officer, who shall be known as the commissioner of agriculture. He shall be appointed by the Governor, by and with the advice and consent of the Senate. Said commissioner shall be allowed one clerk, to be chosen by himself, to assist the commissioner in the discharge of the clerical duties of his office. The office of said commissioner shall be at the Capitol of the State, and an office and furniture necessary for the transaction of the duties of his office shall be furnished him by the Executive of this State.

3. That the salary of said commissioner shall be one thousand five hundred dollars per annum, and the salary of his clerk shall be six hundred dollars per annum.

4. That the duties of said commissioner shall be :

First. He shall prepare, under his own direction, a hand-book, describing the geological formation of the various counties of this State, with information as to the general adaptation of the soil of said counties for the various products ; and for the purpose of giving a general and careful estimate of the capacity and character of the soil of the counties of this State, to obtain a correct analysis of the same, he shall be furnished by the Executive of the State, from the State Treasury, with a sum of not more than one thousand dollars, with which to purchase a sufficient chemical apparatus to use in connection with said office, for the purpose of analyzing the soils and minerals of this State, and guanos and fertilizers as he may deem of importance. Information upon the above subjects, and

others of interest to those who till the soil of this State, shall be given, in circular or pamphlet form, to the agricultural associations or clubs of the various counties in this State, for distribution, at such times as the commissioner may be prepared to do so.

Second. Said commissioner shall have under his charge the analysis of fertilizers sold to be used for agricultural purposes in this State. A fair sample of every brand of fertilizers sold to be used in the State shall be first submitted to said commissioner. When he shall have thoroughly tested the same, which it shall be his duty to do, if he shall find the same of no practical value, he shall summon before him the parties interested, and give them a full and sufficient opportunity of correcting any injustice which may have been done to them by mistake, accident, or otherwise. And if it shall still be found that the brand is of no practical value, the sale of the same for use in this State as a fertilizer shall be prohibited. Any person violating the provisions of this act by selling any fertilizer in this State, without first submitting a fair sample of the same to the said commissioner, under rules prescribed by him, shall be fined not less than one hundred dollars nor more than one thousand dollars for each offence. One-half of such fine shall be paid to the informer, and the other half into the treasury of the State; provided, however, that agricultural lime, agricultural salt, ground plaster, wood ashes, and German potash shall not be subject to the provisions of this act; and provided, further, that no fees shall be charged by the commissioner for the analysis of fertilizers required under this act, but such analysis shall be free of expense.

Third. Said commissioner shall have under his especial charge the disease of the grains, fruits, and other crops of this State; and he shall, at various times, report upon any remedy for said diseases, or any useful information upon said subjects; and he shall employ, in a manner that he may deem fit, a chemist to assist him in his researches, and a geologist to assist him in preparing a geological survey of the State, and other business that he may deem of importance to advance the purpose for which this department is created.

Fourth. The said commissioner shall have in charge the mining and manufacturing interests of the State, and shall collect such statistical and other information as may be deemed useful in regard to them, and may tend in any way to foster and encourage them. He shall especially establish in or convenient to his office in the city of Richmond, a cabinet, in which it shall be his duty to deposit such specimens of rock, coal, ores, lead, metals, and other mineral substances or useful matters discovered and examined, and of models of inventions, and other useful products of manufacture, as may be proper and necessary to form as complete a cabinet as may be in his power, of the specimens of geology, mineralogy, manufacture, and other useful matters relating to the industrial pursuits of the State. Such specimens shall be labeled and arranged in proper order for public inspection, and the names of the counties from which they were collected, or the places where manufactured, to be designated.

He shall also keep in his office or in said cabinet, conveniently arranged and open to the inspection of the public, all maps, surveys, information, and statistics gathered by him in the discharge of his duties under this act.

Fifth. Said commissioner shall examine into any question that may be of interest to the horticulturists and fruit-growers of this State, and in all endeavors that he may deem proper toward encouraging these important industries.

Sixth. Said commissioner shall report, as is hereinbefore set forth, upon any matter of interest in connection with the dairy that he may deem of interest to the people of this State.

Seventh. Said commissioner shall report upon the culture of wool, the utility and profits of sheep-raising, and all other information upon this important subject. Said commissioner shall have under his especial charge the study of the various insects that are injurious to the crops, plants, and fruits of this State, their habits and propagation, and the proper mode for their destruction. He shall also give this attention to the subject of irrigation, and what portion of the State can be most benefitted thereby. He shall also give his attention to the subject of fencing.

Eighth. It shall be the duty of the commissioner to provide for the proper and careful distribution of any seeds that the Government of the United States may desire to introduce into Virginia and shall make arrangements for the importation of seeds that he may deem of value to this State, and for the proper, careful, and judicious distribution of the same: also for the exchange of seeds with adjoining States or foreign countries for seeds from this State; and their distribution in a proper manner shall be entirely under his supervision and control.

Ninth. Said commissioner may report upon any matter or subject he may deem of interest to the agriculture of this State.

5. That the commissioner shall be empowered to make all necessary rules and regulations for the purpose of carrying out the design and intentions of this act.

6. That for the purpose of practically carrying out the design, for which this department of agriculture is instituted in this State, an appropriation is hereby made for the support and maintenance of said department, and for the payment of employees, that it will be necessary to employ to properly carry out the intentions of this act, five thousand dollars per annum; and no greater amount shall be expended for the purposes embraced in this act during any one year. Said amount shall be especially appropriated from the treasury, for said purpose, and shall be counted as an annual expense of the State; and said amount shall be drawn from the State Treasury, by the commissioner, under rules to be established for said commissioner by the Governor.

7. That the office of said commissioner shall continue for four years from date of his appointment; and he shall perform the duties of the same, for said length of time, unless removed in the

manner now prescribed by law for the removal of officers of the State Government.

8. That the commissioner appointed under this act shall, before entering upon his duties, execute a bond to the satisfaction of the Governor, in the sum of ten thousand dollars for the faithful performance of the duties of his office.

9. All acts and parts of acts in conflict with this act are hereby repealed.

WE publish above this bill—one most important for the interest of the farmer. It is most astonishing that amidst all the millions that have been appropriated by the State of Virginia for various purposes, nothing has been appropriated directly to encourage and advance agriculture, the great and prevailing interest of the State. The "*patron*" of this bill; Dr. Joseph B. Strayer, of Shenandoah, deserves the everlasting thanks of the farmers of Virginia for this effort in their behalf; and we doubt not he will receive it; for the farmers reared amidst the refining and ennobling influences of nature, and accustomed to receive so few favors from government, State and Federal, cannot be ungrateful. We seem to foresee in the future some "Old Mortality" wandering among the eternal hills of Shenandoah, deciphering the moss-grown monuments of that grand region. We watch him removing the accumulations of years on these tombs, until is made clear to the eye of the investigator, the inscription on one of them, "Dr. Joseph B. Strayer, *the friend of the farmer.*" The Doctor has had to fight an enemy in "the front and in the rear," from within and from without the State, and has borne to the front, triumphantly, the *flag of farmer's rights*. What defects there may be in the bill can be remedied in the future, and the appropriation, which we regard as very inadequate for the proper carrying out the designs of the bill, we are persuaded will be increased by future legislation, if the plan is found to be likely to secure the desired ends. We are very hopeful that it will be the entering wedge—the commencement of a great institution which will work much good to the agriculture of the State.—L. R. D.

[For the Southern Planter and Farmer.]

RECEIPT FOR PICKLES.

I see the pickles of our "old Virginia" mothers linger in your memory as a thing of the past, too good to be truly described but never to be forgotten. I don't know whether your grief arises from the impression the Yankees stole all the receipts for making it, or whether you are getting a little old and your taste is not as good now as it once was. I hope it is the first, and so I send you a receipt that has come down to us with few equals. It stands in the receipt-book as "Mr. Frank Ruffin's receipt for spicing five gallons of vinegar." Mr. Ruffin you know is unquestionable authority in matters of this kind.

"To five gallons of vinegar take six pounds of brown sugar and the following spices, well beaten: half pound ginger, half pound black pepper, half pound cinnamon, quarter pound mace, quarter pound cloves, two ounces of celery seed, one pound white mustard seed, one quart little onions, half pint grated horse-radish; mix thorough-

ly in the vinegar, and let stand for a month or longer, stirring it frequently."

The pickles are prepared in brine in the usual way, being very sure all the brine is soaked out before using them; scalded in a little vinegar to green them; then put into strong vinegar for three months to sour and get all the water out, when they will be ready for the spiced vinegar. Fill the jars only half full of pickles and then fill with the spiced vinegar, the spices well mixed through it; tie up tightly—a sheepskin cover softened and made to fit smoothly is best. The vinegar should never be taken out with the pickles, but used for many sets of pickle; must be made of pure cider, but not boiled cider. Add two or three pounds of brown sugar every six months to a five gallon jar of this pickle; chop up all the fresh celery left from your table use and drop into the pickles with a few fresh orange and lemon peels, and in a year you will have elegant pickle. The dear old ladies of "Contentment" and "Retirement," who used this receipt, and whose pickle was so noted, sometimes kept theirs three or four years. Like wine and bacon, they improve with age.

If you will try this receipt you will find the art of pickle-making is not lost.

A LADY WHO LOVES A COUNTRY LIFE.

Rockingham Co., Va.

Editorial—Farm-Garden and Fruits.

CONDUCTED BY DR. THOMAS POLLARD.

April is the month of blooms and blossoms, which are now expanding and *opening* under genial sunshine and showers, and hence the derivation of the name of the month from *Aperio*, to open. All nature, which seemed dead under the blighting influence of severe cold, has risen from its sleep and renewed its life. In the midst of the cold winter we have passed through, all vegetable life seemed extinguished, and none could have foreseen this resurrection to a new life, if they had not witnessed it before, and who can doubt that the same Hand which caused this great change, can, in like manner, cause the resurrection of the mortal body, which is "not dead but sleepeth"—language applied by the Saviour of mankind to a body which had even commenced decomposition.

The farmer has his trials and disappointments, and makes his living under the "sweat of his brow;" but he has his pleasures and joys, and a sure reward of his toils if he is diligent and wise, and will throw his whole soul into his calling. No one has a more elevating profession. Separated from the rude jostlings of man with man, so frequent in the marts of commerce, in the life of the politician, and the professional man, brought in daily contact with the wonders and beauties of nature, who is so fitted and enticed as the tiller of the soil, "to look from nature up to nature's God?" As he witnesses each leaf and flower budding and starting into life, watches his seeds and grains dying and decaying, that they may live again ("that which thou sowest is not quickened unless it die"), and surrounded by all these evidences of a creative power, and impressed with the impossibility of blind chance forming and directing the wonderful earth on which

he moves, with its myriads of plants and animals, including that master work of creation, man himself, he can but exclaim, "the Hand that made them is divine."

This is an important month to the farmer, and he must be up and doing. Sow early and sow late, and keep time to the activity which all nature is displaying around him. It is the month for planting almost everything which has not been planted. Particularly it is the time for planting the most important of all crops in this latitude, and in the whole of the United States—that of

CORN.—An idea of the value of this crop may be formed, when it is known that it averages, according to the estimate of the Statistical Bureau, eleven hundred millions of bushels, and for the last two years the yield has been over thirteen millions of bushels a year. The stover from this (stalks, fodder and shucks) is estimated at sixty millions of tons. Assuming the average price of corn at 75 cents per bushel, and the stover at five dollars per ton, we have the total yearly value of about a thousand millions dollars. The hay crop, of the value of which the Northern people brag so much, saying it is worth more than the cotton crop, is estimated at twenty-five millions tons. This, at \$20 per ton (more than an average price), and we have the value of the crop—five hundred millions of dollars. There is no crop so widely cultivated as this in our country, and none containing so many of the elements of value, and none that is destined so largely in coming years to contribute to the support of the human family. The English people are even learning to use it, and of late years, it has been considerably exported from America to England. We consider it an all important crop to raise. Without it, nothing gets along well on the farm, and there is considerable truth in the maxim that "stock will not fatten on bought corn." Mr. Hill Carter, a very successful and intelligent farmer, remarked in his lifetime, that a man who depended on buying Western corn, would soon have to remove to the West.

We are in favor of early planting of corn, for we have always observed, that the farmers who planted early made the best crops. By early planting, there is more time given to work the crops well; and July, the month in which the corn crop needs most rain, is not generally so dry as the first half of August. It is presumed the land is well broken up by the double plow, and if it has been subsoiled, so much the better, unless the ground is of wet character, then it should be previously drained. It must be dragged and cross dragged, and put in fine tilth immediately before planting. Then we would plant as near the 10th of April as practicable in ordinary seasons. The distance to plant depends on the strength of the land. As a general rule, we are in favor of thick planting, believing that, one season with another, the farmer will make more than by thin planting. After the corn gets up, it shades the land and retains the moisture after the rains. We have been surprised to see how well two stalks in the hill bear, and we think two stalks on tolerably good land, always make more corn than the single stalk, and then there is the additional amount of shucks and fodder to be taken into account. We remember, some years ago, seeing an article on the corn crop, in the *American Farmer*, of an old issue, by Wm. P. Taylor, son of the celebrated "Arator," in which he advocates thick planting, with two stalks in the hill, giving among his reasons for doing so, the one I have just mentioned, of shading the land. He was a very successful farmer on the Rappahannock, or possibly Mattaponi, a section of country in which they make large crops of corn, and where some of the cultivators of it, before the war, had accumulated considerable fortunes, almost from this crop alone. Of course, where the land is not in good condition, thick planting should not be adopted; but no large crop of corn can be made except by thick planting. Think of 100 and 200 bushels

(20 and 40 barrels) per acre, and how thick the corn must be to secure such yields. In the *Country Gentleman* of March 8th, 1877, will be found an account of the quantities of corn which have been raised per acre. It is stated, "that Mr. J. W. Murray, of Maryland, has credibly reported a yield of 152 bushels per acre; Maj. Williams, of Bourbon Co., Kentucky, by close planting in drills, obtained 160 bushels to the acre; J. W. Dickey, of Pennsylvania, raised 169 bushels per acre; Mr. Compton, of Pa., who was also a competitor in the corn trial above mentioned, obtained in that competition, a product of 181 bushels per acre, as amply confirmed by testimony. Yet, there are still two products of corn on record, that surpass the yield of Mr. Compton. Dr. Parker, of South Carolina, by his crop of 200 bushels per acre, became the champion of the world, and retained the honor some years. This yield, however, has recently been surpassed by W. F. Turnley, of Alabama, who has reached the product of 221 bushels per acre." These yields seem almost beyond credence, but it will not do to say we cannot believe them, because we have not seen them ourselves. Single ears of corn have been found to contain over two thousand grains, while single stalks of the Baden, and other varieties, have matured from six to ten ears: this shows the prolific character of the plant, and what it is capable of yielding. These yields show the importance of rich land for corn, and everything else, and give us an idea of how much the cost of producing a crop on good land is diminished. The cost of corn and all other crops is the pivotal question on which the profit of their production depends. To reduce the cost of production of corn, is to reduce that of the numerous forms of food into which it is a factor. In New England, it is stated (by the *New England Farmer*) that the cost of a bushel of corn is fifty cents. But Dr. Sturtevant says he raised a crop of 100 bushels per acre in Massachusetts, at twenty-nine cents per bushel. At the Experimental Farm at Chester, Pa., the cost of raising 100 bushels per acre, is stated at twelve and a half cents per bushel. On the great Sullivant Farm, at the West, containing forty thousand acres, the cost is put down at eleven cents per bushel. (Most of the above facts are obtained from an article on "Indian Corn, the Food Crop of the World," by Conrad Wilson, in *Country Gentleman*, of March 8, 1877.) Farmers differ as to the kinds of corn to plant. We think the old "Gourd Seed," which is always now found mixed with flint corn, is, as a general rule, the best and hardiest variety for this latitude. We have tried the "Prolific" variety (small corn), and thought it delicate, and that it did not yield as much as the Gourd Seed would have done on the same land, which was good. The kind we tried had been selected with great care, through a succession of years, by a farmer in Eastern Virginia. Other parties tried the same corn, in the same neighborhood, the same year, and came to the like conclusion the writer did. This year, we have obtained for trial, a yellow corn, cultivated by some of the farmers on Upper James River, which has a deep grain and good ear, and is called by some "Yellow Gourd Seed." Dr. Deitrick, a very intelligent farmer, from whom the corn was obtained, is very certain that it yields decidedly more than the white corn, on high land, or on land of medium quality. It is considered richer in saccharine matter than the white corn.

As regards the cultivation of corn, many plans have been adopted. The old "mould-board" system, throwing the dirt from the corn, weeding if grassy, and then throwing it back, when the corn gets the proper size, is probably as good, or better, than any other. It kills the grass best, and pulverizes the land well. But the "Thomas Smoothing Harrow" may revolutionize all the systems,

if all is true which is claimed for it. The Editor of a St. Louis agricultural journal (the name is forgotten), in a late number, claims that one man with this implement will cultivate 100 acres of corn. The largest size harrow, we think, carries nine feet. The harrow is run over the corn soon after it is planted—then just before it comes up—then as soon as it comes up well, and afterwards until it is six or eight inches high. The grass is thus effectually killed as soon as it germinates, and the after cultivation is a very simple matter. If the land has been well broken and well dragged before planting, unless the texture of the soil is very close, we could imagine that the cultivation required after the free use of the harrow would be very little, probably a moderate throwing of the dirt to the corn, after it attained proper height, or about the time it commenced tasseling and shooting. So much for this great and important crop, except in connection with the use of fertilizers for this and other crops, of which we shall presently speak.

OATS.—If any of our readers have unwisely deferred sowing oats until now, let them not delay a day longer, and sow "winter oats," even at this time, as they are more hardy, will branch more, and produce heavier grain than the Spring oat, no matter when sown. Do not sow less now than one and a half to two bushels, according to the quality of the land.

TOBACCO.—The land should be thoroughly prepared for this crop now, and all the stable manure applied to the land which can be procured, if not done previously. If commercial fertilizers are to be used, let them be gotten ready and applied a short time before planting. In previous numbers of this journal will be found many practical and excellent articles on the cultivation and management of this important crop, which adds so much to the revenue of the people and State of Virginia, and from which so much is unjustly and injuriously wrung from an impoverished people by the tax collectors of the United States Government. We trust the time will come when the people of the Western States will unite with those of the South, and end the dominion of "New England," which, in this matter of taxation, has been so long riding the South with "boot and spur." We suppose a large crop will be pitched this year, in view of the present good prices, and we hope the planters will have better luck with their plants this year than last. We tried burning a bed this year with kerosene, but did not find it to burn as deep as we hoped. But we think now we erred in not first hoeing up the ground, then sprinkling trash over the loosened ground, sprinkling on the oil, and then burning.

Vegetables.—This is the month for sowing many vegetable seeds, particularly cucumber, squash, salsify, and beets, if not planted last month. Tomatoes must now be transplanted if the plants have attained good size. Potatoes (Irish) may still be planted. *Asparagus* beds should be put in order the first of this month, as soon as the first shoots appear above the ground, which is indeed occasionally as early as the last of March. The beds should have been well manured during the Fall or Winter, and the dirt thrown over them with the plow. Now throw down with the plow, immediately throwing the dirt back. This will pulverize it; then pull up with hoes and rake fine with hand rake, and apply salt enough to whiten the tops of the beds quite well. It is doubtful whether the salt adds to the growth of the plants decidedly, but it keeps down the grass—an important thing in cultivation and cutting of this vegetable. Hot beds for *Sweet Potatoes* should be formed this month. Our Hanover friends usually form them in this manner: First. Put a foot of oak leaves at the bottom; water and trample

them; then 6 or 8 inches stable manure, trample; then put on 3 or 4 inches fine dirt; then place on the potatoes; cover with 4 inches fine dirt; then cover with 8 or 10 inches oak leaves; then place over planks, breaking the joints with other planks, covering the whole with oak leaves or pine tags, to keep out all water, and dig a trench around and bank up the dirt. Some prefer hot bed sash. *Melons* should now be planted. *Grapes*, *Strawberries* and *Raspberries* may still be set out. It is rather late for fruit trees, unless the trees are small and the roots very good, and much care be taken in the transplanting.

Manures of all kinds should be hauled out for corn, tobacco and grasses, if not previously done. There is much diversity of opinion as to the proper application of manures among farmers. It is a convenient time to haul out manure on the frozen ground in the Winter, or when quite dry and while it is cold, there cannot be much evaporation of ammonia, which requires a certain temperature to make it volatile. We should haul it then on grass lands and spread it at once. On ground plowed for corn or tobacco, haul it, spread, and before there is any warm weather, plow it in with single plow, or, if the ground is rough, drag it, and this will cover much of the manure. If the manure is quite coarse, then we would bulk it, compact it well, and let it stand until it has decomposed more. It might be well to cover also lightly with dirt. And before the manure is hauled some gypsum should be sprinkled over it to prevent the loss of ammonia.

Commercial Fertilizers.—It is so difficult and almost impossible, except near the cities, to get putrescent manures enough for corn, tobacco and vegetables, that the inducement and temptation is very strong to use other fertilizers. The trouble is what to use—a problem not yet solved, and one which bothers and harasses every reflecting farmer. That farmers are acting in the dark in this matter, it is well for them to comprehend; for knowledge and acknowledgment of our ignorance is the first step towards getting information. Some 90 out of 100 using fertilizers without making any experiments in the use of different kinds, or without leaving out portions of fields to compare the results, and without knowing whether they are being paid for the expenditure, having jumped to the conclusion “that it pays.” Such farmers should be unsettled in their hastily formed opinions. It is from such, we suspect, that the numerous certificates for every kind of fertilizers are obtained.

In this journal for February, 1877, will be found a statement from J. B. Lawes, of England, to this effect: Two acres were taken—one unmanured—the other receiving a full dressing yearly of soluble phosphate of lime, and sulphate potash, soda, and magnesia, yearly. They were cultivated successively for 24 years, divided into two periods of 12 years in computing the results, viz:

Permanently Unmanured.		Mixed Minerals.
Bushels per acre.		Bushels per acre.
Mean of 12 years from 1852-63,	} 15½ bushels.	15½
Mean of 12 years from 1864-75,		13¾

Few would have expected such a result, and many are constantly using these mineral fertilizers without nitrogenous manures. The only difference in the above results was, that in the second period of 12 years, the yield did not diminish quite so much where the mineral manures were used. Mr. Lawes introduced these experiments principally to show that nitrogen, in available quantity, cannot be obtained from the atmosphere, and to show that this land needs nitrogen. When this was added, either as ammonia or nitric acid, to plots containing the mineral manures, 36 bushels of wheat were obtained.

In the July number of the *Agriculturist*, 1876, Prof. Atwater has an article, "Science Applied to Farming," in which, he says, the field experiments of Messrs. Lawes & Gilbert are far the most elaborate which have ever been made. They have consisted in raising different crops with different manures—the same crop being grown on the same plot of land, with the same manure, year after year, for a long series of years. In an experiment with barley, for instance, 10 acres were divided into 28 plots, which were treated with different kinds of fertilizers, each plot receiving the same manure year after year. Similar experiments are made with wheat, grass, clover, turnips and so on, and have been going on over thirty years. Mr. Lawes gives a summary, which, he says, "comprises the results of my experience and practice in regard to artificial manures for the last thirty years." In this, he says, the only two substances really required in artificial manures are, 1st. nitrogen; 2nd. phosphate lime. The last possible manure for wheat, barley, maize, oats, sugar cane, rice, pasture, grass, is a mixture of 300 pounds superphosphate of lime and 275 pounds nitrate soda, applied every year to one acre of ordinary English land. This has produced for 20 consecutive years 48 bushels barley. Fourteen tons of farm-yard dung annually, has given the same result. * * Potash is generally found in sufficient quantity in soils, and the artificial supply is not required." So much for the land in England. Prof. Atwater then states that Prof. Storer, of Massachusetts, has been conducting for four years experiments on the same general plan of Lawes & Gilbert, and has used a variety of fertilizers, and has come to the conclusion that "the manures which contained a considerable quantity of *potash*, yielded the best crops; while phosphates and nitrogenous manures did but little good, and in some cases positive harm." The land in England is very different from that in Massachusetts, and hence the difference of results. How are the difficulties which thus present themselves to be remedied? Not by analysis of soils, as many suppose. This has been found very unsatisfactory. The phosphoric acid in soils is in minute quantities, and it is difficult to detect; and so of some other ingredients of the land. There are very few chemists in this country who are really skilled analysts. Even in Germany, which contains the most accurate, painstaking, laborious chemists in the world, we hear very little about analysis of soils. The remedy is, to test fertilizers by actual trial and experience on lands in every part of the country, and of every variety of character and soil. Prof. Atwater does not say analyze your soils, but "the wants of different soils can be learned only by experience and experiments." He then goes on to say, "Circular No. 4 of our Experiment Station, contains the following paragraph:

"For farmers who have not their own experience, or that of others in like circumstances, to guide them, the most sensible plan is, to try experiments on a small scale, with different trustworthy fertilizers of high grade. The ones that prove most satisfactory can then be used with confidence in large quantities. Should the plan meet with sufficient encouragement, we will arrange with some of the manufacturers, whose wares are sold under its supervision, to have small lots of high grade fertilizers of different kinds, put up in lots of 50 pounds or more each, and sold at low prices, for experiments. Each lot of experimental fertilizers will be accompanied with description and directions for experiment, so that the user may, by proper care, with comparatively little expense, test the special wants of his own fields and crops."

In relation to the wants of some soils for potash particularly, it will be of practical value to make the following further quotation from Prof. Atwater's article in regard to Prof. Storer's experiments: "The largest crops were obtained with

dung and with wood ashes. Nitrate, sulphate and carbonate potash (pearl ash) likewise brought large returns. * * Wood ashes proved more efficacious than any other single fertilizer, the yield being larger than with either yard or stable manure. * * The addition of potash to the soil, enables the soil to make use of a certain store of phosphoric acid and nitrogen, which the land contains. * * It is clearly shown, moreover, that the amount of available potash in the soil must be very small, since neither the phosphatic nor the nitrogenous manures by themselves, nor mixtures of the two, could enable the crops to get enough potash from the soil to keep them from starving after the first year." We advise our readers to procure this article, and others on the subject by Prof. Atwater, and read them. He has written a series of articles on "Science applied to Farming," of which this is the XIX. They are dated from the "*Connecticut Experimental Agricultural Station, Wesleyan University, Middletown, Conn.*," and are now being published in that useful agricultural journal, the *Agriculturist*. The March number contains the XXVII No., and is headed, "What fertilizers to use? Farmers their own Experimenters."

In this connection, we desire to notice "A Bill to Establish a Department of Agriculture for the State," of which Dr. Strayer, of Shenandoah, is the Patron (House Bill No. 68). Dr. Strayer deserves the thanks of the farmers of Virginia for his efforts in their behalf, for, as far as we know, he is the first representative of Virginia who has moved in this matter. And it is wonderful to believe, that of the millions which have been spent in Virginia, in discussing political principles, State rights, &c., appointments to office, canal and railroad bills (with large appropriations to them), in log rolling for improvements to carry produce to market (which knowing, or caring, whether there was any produce to carry to market), no direct appropriations have been made to encourage agriculture in the manner contemplated by Dr. Strayer's bill. Still, we must reluctantly dissent from the provisions of Dr. Strayer's bill, while giving him due credit and thanks for his movement in behalf of the farming interest—a movement which may be the entering wedge for proper provisions and appropriations for the benefit of agriculture.

At the same time, as expressed in our editorial for March, we believe the *General Government* should aid very liberally the agricultural interests, and that it should establish "Experimental Stations" in every State of the Union after the manner of the German Government which has now about 40 *Experimental Stations*. The farmers have the power and they should compel the General and State Governments to recognize and support their interests in every possible way—for their interest is the interest of the whole country. Let the "Grangers' and the Farmers' Societies and Clubs" unite, then, for their good, and the good of all.

Soiling Crops—Which we omitted to speak of, should be sown this month, if early forage is desired—corn, sorghum and millet. An experimenter, in a late number of the *Country Gentleman*, says, after trying the different varieties of corn for soiling, that the white Western corn is the best, is more hardy and puts out more leaves, and that it should not be suffered to ear, for then the cattle eat the ears and reject much of the corn—by this time the stalk has commenced to harden. "The "Honduras" sugar-cane is said to be the best variety of sorghum for soiling and syrups. The growth of "sorghum" for syrups is largely on the increase in the United States. "Mangel" and "sugar beet" may be sown for stock the last of April. The "Mangel" is probably the best for this latitude, though some prefer the "long blood red" for this purpose. The "Chafa" for hogs seems growing in popularity, though it has been derided and said to be only a variety

of "nut-grass," and a pest to the farm. A writer in the *Louisville Courier Journal*, J. P. Steele, M. D., lauds it very highly. He says, "he has put it to a thorough test, and the result has shown it to be a decided success as a hog feed." What I have seen of it this year has entirely satisfied me that it is the coming salvation for the South, as far as it relates to the pork question, and I am by no means certain it is not going to reverse the present order of things somewhat, by converting the Southern States into a pork-supplying region for the North. I am perfectly convinced that we can raise our pork cheaper than it can be raised on corn, above the Ohio river. The Doctor's farm is near Mobile. The mode of cultivation and where the seed may be obtained we do not know. The seed, Dr. Steele says, are scarce, on account of the crops being fed on the land to hogs, and the difficulties of digging the tubers with the hand on account of their being so small. He says it is entirely distinct from "nut-grass."

We have before expressed our opinion of the value of "sorghum" for soiling hogs. Millet makes an early feed, maturing in 60 days. The German millet, which seems to be preferred for hogs, takes 90 days.

AN "AMENDE" TO THE "SENIOR" OF THE DISPATCH.

We regret not to have minded better our A's and P's in a little notice of the pleasant dinner at Zetelle's, at which "mine host" was the "Senior" of the *Dispatch*. We shall endeavor hereafter to mind our A's and P's, and P's and Q's too, for not to know the name of one so "known to fame" (and to "memory dear") is rather to argue one's self unknown. We had taken it into our head that the "Senior" was named after St. Patrick instead of St. Andrew—a man equally as good as St. Andrew, too, if tradition and history is to be trusted—albeit, a distinguished Presbyterian divine claims St. Patrick as being a good Presbyterian—and by the way, there are some mighty nice Presbyterians in "Ould Ireland," for we witnessed once, in Belfast as genteel a congregation of this sect as you would see anywhere in the world, and heard, too, an excellent sermon.

Editorial—General.

THE CANAL LEASE.

After a most manful fight in the Legislature, by those who wished to vitalize the James River and Kanawha Canal, a State property that has been, lo, these many years, in a state of "suspended animation," the measure was at last carried to lease the canal to MASON & Co. This result filled us with gladness: because, looking at what has been done with water lines, well-worked, elsewhere, we had reason for hope of new life in all the region tributary to this great work. The Governor vetoed the bill; and, as much as we admire him, we are compelled to say that his judgment in this matter was not well founded. But the cause has not been killed, by a good deal; and those who stand by it are "enlisted for the war." It is bound to be made one of the principal issues in the coming campaign for the Governorship, and it is a source of no little pleasure to us to know that the man of all others we picked out as the proper one for this office, namely, General W. H. F. LEE, led the forces in the Legislature favoring the lease.

The scheme of a railroad, suggested by the Governor, will not cure the trouble. It will, on the contrary, be the entering wedge that will finally split in two one of the great railway lines (the A. M. & O. Railroad) already in operation in

the State, and give certainly one portion of it (the Virginia and Tennessee) to Mr. GARRETT, of Baltimore. to whom, above all men, Virginia is indebted for the loss of more than one third of her domain (West Virginia), and the arrangement of freights so as to discriminate against Virginia cities.

Let us have the canal completed as soon as possible to Clifton Forge; and when CLAIBORNE MASON says he can do it, we can consider it done; for he knows no such word as fail.

THE WATT PLOW.

The future of the South is in the hands of the farmer—her wealth lies hidden in her soil. The agents for the development of this wealth are improved modes of cultivation, variegated crops and labor-saving implements. As the most important of the latter, may be mentioned the plow; the oldest of all implements used in the cultivation of the soil. Simple as it may appear, it is the most difficult of all implements to construct; a slight deviation in set of beam or curve of mould-board rendering it almost useless. A plow not constructed on true and natural principles, though bought at a low price, is a costly tool to the farmer who uses it. Every farmer knows that the success of a crop depends, to a large extent, on the manner in which the land is prepared before the seed is put in. Hence, it is of the utmost importance to use only that which he finds does the most perfect work with the least expense.

Among the thousands of plows used in the South to-day, we believe none stand higher than the Watt plow, manufactured by Watt & Call, of this city. We believe it was Dr. Johnson, who said, "God might have made a better berry than the strawberry, but he never did;" so tens of thousands of Southern farmers admit that man might possibly make a better plow than the Watt, but we believe he has not yet done so.

With the inventor, Mr. George Watt, the improvement of the plow has been the study of a lifetime. Being educated a farmer, and having a practical knowledge of mechanics, he has progressed steadily towards the accomplishment of his object, as is manifest by his labors since 1840, when his attention was first directed to the subject, and he invented the Cuff Brace Plow, the first plow ever made with a cuff attaching the standard to the beam, and which is now so extensively imitated. He began at the beginning; observed, reflected, planned; he carved his own models. and when his plows were cast, tried them himself in the field, noting every defect and devising remedies. The result of these labors is the Watt Plow of to-day, which is as far superior to the old cuff brace and its host of imitators as the plows of modern times are to the tree crotch of the ancients.

The improved Watt combines all the essentials to be desired: being simple, strong, durable, easy to handle. light draft, doing its work thoroughly, turning under all trash, and pulverizing the earth completely, leaving no uncut soil, and running through the foulest land without choking. These attributes and their low price render them the cheapest plows in use.

There are some twenty different sizes and styles manufactured, from the lightest one-horse weighing but thirty-four pounds—which can be drawn by a man, and is the lightest draft plow made—to railroad plows drawn by a thirty-ton locomotive; one of the latter built for the Richmond and Danville railroad, doing the work of one hundred men. In addition to their superiority as turning plows, the one-horse plows form the most perfect cultivating implements for corn, tobacco, cotton and all crops, by means of their various attachments. They

have, also, mould-boards of seven different sizes, adapting them to any team and to all kinds of soil, and turning a furrow of any size desired. The two, three and four-horse turning plows are made right and left handed, and their work cannot be surpassed.

To meet the constantly increasing demand, the proprietors have been compelled to erect a spacious factory and warehouse, to which they have just removed. The building, Nos. 1518 and 1520, Franklin street, contains three floors each, forty-five by one hundred feet, fitted with every convenience for transacting an extensive business. In the rear of this building are the large foundry and wood-working shop, the former thirty-two by one hundred and sixty-five feet, and the latter thirty-five by forty-five. The foundry at present gives employment to twenty moulders, a larger force than ever employed before, daily converting tons of metal into plows and castings, recently melting down nearly twelve thousand pounds of metal at one time, which will give an idea of the operations of the firm, as they make no castings save for their own plows. In the wood-shop most of the work is prepared by machinery lately introduced; each machine doing the work of a dozen men, and with a uniformity otherwise impossible to attain. The factory employs this season about fifty hands, and has a capacity of one hundred and twenty-five to one hundred and fifty plows daily. The demand has been so heavy since the beginning of the year that the firm, although commencing the season with an unusually large stock, have been compelled to work up to orders, shipping as fast as plows and castings could be turned out; and though working up to full capacity, have been unable to fill orders as fast as received.

Every Watt plow is warranted in every respect. The manufacturers ask no one to take them on the strength of what they or others say of them, but to test them fully, and let their merits be decided by their work. No material but the very best is used in their construction. The reputation of the firm is too high to be endangered by the use of inferior metal. The rule is to use none but the best, and guarantee quality of material as well as superiority of the plow itself. All in want of plows will do well to visit Messrs. Watt & Call's establishment, or send for descriptive catalogue and price list. You will find enquiries through the mail as strictly attended to as though presented in person.

WADE HAMPTON.

There is a full man for you. He does not creep like a craven into the waiting room of Hayes. He asks no recognition from him. He is the Governor of the sovereign State of South Carolina, and, to preserve the peace, is willing to ask Hayes to take away his troops. The solemn farce has been enacted, now for several years past, of States having a full quota of persons in the two Houses of Congress, who have talked and voted in the same manner as such people sent by the other States have talked and voted, and yet the General Government has dared to interfere with the domestic concerns of one set of these States, and doesn't dare to do likewise with the other. All of which exhibits a lovely system of consistency, and the most thorough method that could be devised of making one set hate heartily the other. Hatred may be a good regimen for some people; *it works badly in a Union.*

We hope South Carolina will soon get relief from her troubles. Cotton planting is at hand, and we learn that but little can be done. The factors won't advance to the planters, because, with an undetermined State Government, no man knows where he stands; and business is not money but confidence.

We saw a letter lately written by a distinguished banker on the Continent. It bore date the 11th ultimo. It closes with these words :

"In Europe, people are pleased with Mr. Hayes's inaugural address, and it is believed he means what he says about the South and other reforms. The question is, will his own party *allow* him to carry out his intentions?" A very wise conclusion. Will they?

It would be a pleasant recreation for this unelected President to go over what Grizor has to say on the score of "legitimacy." He needs all the comfort he can command in that line.

P. S.—The news comes that the troops will be withdrawn from the State House at Columbia. It will bring relief to every household in South Carolina—of course we except the barnacle growth, known as the carpet-bag element, which has fastened itself on that State. As there will be no more plunder to feed it, it will leave of course.

Whatever peace and order exists in the United States to-day, the people are indebted to but one man for it, and that man is WADE HAMPTON. Had he let loose his people, driven as they were to frenzy by years of the most grinding oppression, the bloodshed would not have stopped there. It would have brought trouble to every State, and plenty of it, utterly overturning for the time every business interest and knocking the credit of the Government into a cocked hat.

STAND BY THE INDUSTRIES OF YOUR OWN STATE.

The communication of IVANHOE, to be found elsewhere in this number, is a very important one ; and we hope it will not stop there. A State is a complex affair, and unless *all* of its interests work in harmony, it is like any other cripple, and so makes poor headway.

Most of us, we fear, are more Virginian in sentiment than in practice. If we send our crude products away for sale and bring back manufactured products, we are certainly paying freight two ways, and that would be bad enough if it stopped there ; but all the profit on the manufacture is lost too. Maj. RAGLAND, of Halifax, showed some time ago, in the *Planter*, how very much more the net earnings of the agricultural community were in manufacturing States than in States purely agricultural. When many operatives are to be fed, diversified field work becomes practicable. Philadelphia has in the neighborhood of \$400,000,000 of manufactures per annum, and the land, for many miles round, is worth as much, per acre, as many Virginia farms will bring. If Pennsylvania is thus benefited through her great manufacturing centre, will not the same laws, if allowed to operate here, help Virginia too? Of what avail are our manifold advantages for manufacturing if we allow them to remain unused? Is it a paying operation to us to go to Massachusetts for our hoes, shovels and forks ; to New York for our plows ; to Pennsylvania for our reapers and mowers ; to Ohio for our threshing machines ; and to Wisconsin and Michigan for our wagons? Are not the Yankees making our vassalage complete when they get all the money we have? If Baltimore, by her thrift, has added to her taxable values to such an extent as to enable her to pay *two-thirds* of all the State tax of Maryland, her farmers certainly have a comfortable time in the immunity they enjoy from a burden that is grinding the Virginia farmer to powder.

We should learn wisdom some of these days, and we hope we will. The Yankee has continued in his ruthless oppression of us in the South, boasting that he could keep us humiliated, as by the accumulation of wealth in his section he can

work things so as to secure the last dollar we have. He has certainly done it. Making ourselves willingly his slaves, we should submit to his inflictions without murmuring. We should not play the child and grumble because our masters refuse to consider us men. *We must be men*, and act like men, if we are to expect any consideration from other people. And it is high time that we were pondering seriously our situation, and seeking the means of relief from our thralldom.

THE WHISKEY BILL.

We are in favor of this measure. If men will drink, and men must be taxed, let the bottle stand the tax. It can do it a great deal better than unproductive land. Piney old fields and money never have been very close relations, and it is absurd to enact laws on the supposition that they are.

If it results in making men drink less, the gain will be great, for it will allow better provision for the wife; and happiness in her heart makes a thrifty home; and thrifty homes make rich States.

We hope this law will be carried out in good faith, and not be evaded by every man keeping a little brown jug under the rafters, which he may tap on the sly, urging, as a pretext, the pleasure he always did experience in looking at the sky from the garret windows.

THE PAPERS OF "CIVIS."

The demand from all portions of the Southern country, for these papers, have been so numerous that their author, Prof. PURYEAR, has had them printed in pamphlet form. They have gone through the press and are ready for delivery. Single copies, 15 cents, or 10 copies for \$1. Address *Southern Planter and Farmer*, Richmond, Va.

The public generally is so well acquainted with the import of these papers that it is needless here for us to urge anything in their commendation. They treat of a question that must become daily one of more and more importance throughout the whole South, and it should be confronted intelligently and firmly. It is one indeed that should be treated without temper, and as it is purely a public matter, it is idle for the advocates of the free school to make it a personal affair. It is the *thing itself* we are considering; the machinery is a secondary matter.

A SPECIAL PREMIUM.

Maj. A. M. Bowman, of Waynesboro, Va., one of the largest and best known stock raisers in the South, writes: "I will present to any person in Virginia, securing the largest club of new subscribers to the *Planter and Farmer* [not less than fifteen new subscribers], between the 1st of April and the 1st of November next, a first-class Berkshire or Essex pig, three months old. The pig will be carefully boxed and placed on the cars at Waynesboro, Va. I also make the same proposition to any one outside of Va."

We thank Major Bowman for this liberal offer. We will keep an accurate account of all clubs sent between the 1st of April and 1st of November, and will announce in our November number, the name of the person sending us the largest number of new subscribers.

WE will be greatly obliged to any of our subscribers who will inform us of the importation of any DEVON cattle to Virginia during the past six months.

JUTE.—The immense consumption of jute, in our Southern country, especially in the way of bagging for cotton bales, induced us to make some inquiry about this crop, thinking that, perhaps, it might enter into our list of staples. We have secured the full report made on its cultivation by the United States Consul at Calcutta, India, and expect to have the pleasure of presenting it before long to our readers. If we diversify in the direction suitable to our region, we are sure of success; we can, at least, make the trial.

WE are in receipt of a package of *Will's Santonine Worm Powders*, together with the formula by which they are made. The ingredients of which are standard remedies for worms, and prescribed by physicians throughout the country. This is, therefore, no quack or humbug, but stands upon its real merits. Has been sold largely with great satisfaction, and we hope will be appreciated by the people. Mr. Wills is successor to R. B. Wood, Druggist, 743, Second street, Richmond, Virginia, and furnishes this preparation at his drug-store, or by mail, on receipt of twenty-five cents. See advertisement in this number of *Planter*.

REFERRING to an article elsewhere in this number of *Planter* on millet seed, we will state that the Pure German Millet Seed can be had of Messrs. ALLISON & ADDISON, of this city, at \$1.50 per bushel. They have, in fact, every variety of the most reliable seed for garden and field.

THE life members of the State Agricultural Society of Virginia, residing in Charles City County, are requested to meet at the Courthouse on Thursday the 19th of April, for the purpose of taking the necessary steps to organize a County Society.

WE are indebted to Mr. JAS. VICK, the great Seedsman and Florist, for a valuable lot of vegetable seed. There are no more reliable seedsman in the country than Mr. VICK. If you wish garden or flower seed write to Mr. VICK, Rochester N. Y., and he will do the right thing.

SEE advertisement of DICKINSON & CHEWNING on another page in regard to Prickly Comfrey.

WE call attention to the advertisement of Mr. S. D. Atkinson, a most reliable gentleman, who advertises Torra Cotta Pipes and Drain Tiles for sale.

RICHMOND PRICES CURRENT.

Reported by E. & S. WORTHAM & Co., Grocers, Dealers in Iron and Steel, and Commission Merchants.

Personal attention paid to the sale, of Tobacco, Wheat, Corn, Flour, Oats, Rye, &c., &c. APRIL 2, 1877.

TOBACCO.—Bright Lugs, \$8a\$20; Bright Leaf, \$12a65¢; Dark Lugs, \$3½a\$7; Dark Leaf, \$6½a\$13½.

WHEAT.—Best samples, White and Red, \$1.65a\$1.70; for samples not so good, from \$1.15a\$1.50.

CORN.—50a53c. per bushel.

CORN MEAL.—53a65c. per bushel.

FLOUR.—Superfine, \$6½a\$6½; Valley Extra, \$7½a\$7½; Belmont Extra, \$8; Family, \$8a\$9.

OATS.—Spring, 35a37c. per bushel.

PLASTER.—Ground, 88 per ton.

LIME.—Rockland, \$1.15a\$1.25; Virginia, \$1.10a\$1.15.

HAY.—Virginia Timothy, 75a80c.; Clover, 50a65c.

LEE'S Prepared Agricultural Lime

FOR

TOBACCO,

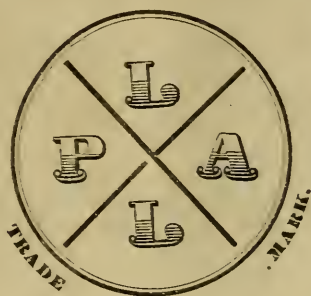
PEANUTS,

POTATOES,

COTTON

CORN,

&c., &c.



UNPRECEDENTED SUCCESS.

Farmers who tried a little last spring on COTTON and TOBACCO, alongside of fertilizers costing \$50 per ton, say they can see no difference in the Crops. An application of 400 lbs. per acre, in the drill, doubles the

CROP OF COTTON.

Mr. J. S. BUSTER, of Brookneal, Campbell County, Va., says: "Where he used it last Spring, notwithstanding the unfavorable season, made a good crop of Leafy Tobacco, and shows his faith by buying TWO CAR LOADS for his Spring Crop."

The largest Potato growers in Hanover say it is the best thing they ever tried on

SWEET POTATOES.

The best evidence of its results is, that my sales up to 1st March are TEN TIMES as large as they were last year at the same time

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A. S. LEE, Richmond, Va.

AGENTS.—Robert Tanner & Co., Petersburg; J. J. Thomas, Raleigh, N. C.; Warner Paulett & Co., Farmville, Va.; R. T. Knox & Bro., Fredericksburg, Va.; Moon & Bro., Scottsville, Va.; J. M. Norvell, New Canton, Va.; Wm. H. Parrish, Cartersville, Va. mar

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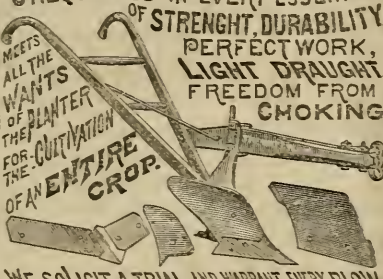
THE WATT PLOW

UNEQUALLED IN EVERY ESSENTIAL
OF STRENGTH, DURABILITY,
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LIGHT DRAUGHT,
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ALL THE
WANTS
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FOR THE
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CROP.

WE SOLICIT A TRIAL AND WARRANT EVERY PLOW
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To meet the rapidly increasing demands for these

PLOWS,

WE HAVE ERECTED
A NEW FACTORY & WAREHOUSE

Nos. 1518 and 1520 Franklin St.

FIVE DOORS BELOW

OUR OLD STAND,
to which we have Removed, and
are now prepared to furnish
Plows at Prices that render them the

CHEAPEST IN THE MARKET.

IN ADDITION TO PLOWS WE HAVE

Plow Castings of all kinds, Corn Shellers, Feed Cutters,
Harrows, Cultivators, &c.,

and FARMING IMPLEMENTS generally, to which the attention
of those in want is called. We offer these on best terms.

Several new sizes of Plows have been constructed since last season,
and we offer them with the guarantee of giving satisfaction, and
being superior to any Plow in use. We ask one trial only, and if
any plow does not prove as represented, return it to us.

WATT & CALL,

Nos. 1518 and 1520 Franklin Street.

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RICHMOND, VA.

BARNUM'S CITY HOTEL, BALTIMORE.

BARNUM & COMPANY, PROPRIETORS.

This Hotel is well known to the traveling public, having always maintained its
deserved reputation. as one of the best in the Southern States, its location (Mon-
ument Square and Calvert Street.) makes it the best in the city for Merchants
and Pleasure travel; being convenient to the Railways and Steamers, and with-
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To meet the demands of the times, the rates of board have been reduced as
follows: For single rooms, first, second and third floors, Three Dollars per day.
For the fourth and fifth floors, Two Dollars and Fifty Cents per day. The Ele-
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In consequence of the decline in hotel expenses, Messrs. BARNUM & Co. are
enabled to make this reduction in price, and at the same time maintain the well
known standard of their table.

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REAL ESTATE AGENTS AND AUCTIONEERS,

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A NUMBER OF SMALL FARMS.

near the city, also farms in every section of the State of every variety
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SHORT HORN CATTLE

of the most approved and best families, embracing Young Marys,
Josephines and Illustrious Stock. All recorded in
American Short Horn Record.

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SOUTHDOWN SHEEP

Bred from Webb Stock and from recent importations from the Peerless Merton
Flock of Lord Walsingham, Eng. The latter are comprised of the pick of the
lot imported in May, 1876—sent to this Country as specimens of the Flock, and a
part of the lot imported in August for exhibition at the Centennial, including
some of the First Prize Sheep at the Royal Agricultural Society's Exhibition,
July, 1876.

OXFORDSHIRE DOWN SHEEP

Comprised of those selected in England and imported for me in May, 1876, by
T. S. Cooper, of Pennsylvania, and of the First Prize Pen of Yearling Ewes at
the Oxford Agricultural Show, 1876. These Sheep are very large and heavy, and
have splendid fleeces of wool.

Purity in Breeding and Individual Excellence Guaranteed.

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SHOCKOE SLIP, RICHMOND, VA.,
SOLICITS CONSIGNMENTS OF TOBACCO,
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Personal attention given to all
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GRAIN BAGS furnished at usual
rates upon application. Ap—ly

THE
VIRGINIA
WINE

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CIDER MILL



Is superior to any MILL now made, and more sold annually in the market than of all other kinds combined. It does not grate, but thoroughly crushes every fruit cell, insuring all cider the apples will yield. Send for Catalogue.

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RALEIGH,
(Rose of Sharon).

Breeders of high-bred Short-horns will do well to avail them selve of the services of this magnificent young bull at twenty-five dollar a calf. Good care taken of cows at one dollar and fifty cen ts pe month; but all risks entirely with the owner.

I have a constant apprehension, that some Kentucky man wil offer a price for this animal which we cannot decline. Address

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Farmer, Virginia A. & M. C. Farm,
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Largest and most complete Gallery in the South. Has taken the premium for best photographs at every State Fair since the war.

july—1y

HEADQUARTERS OF IMPROVED STOCK IN THE SOUTH.

The liberal patronage I have heretofore enjoyed from my fellow-farmers of Virginia and the Southern States, has induced me to make large additions to my breeding stock; and I am now prepared to furnish a quality of stock, such as I have never before offered, being bred from selections from the very best herds and flocks, both in England and America, some of which cost fabulous prices. I offer

SHORT-HORN BULLS & HEIFERS,

the get of the pure Bates bulls, second Earl of Oxford, 6,708, and Fidget's Oxford Twelfth, 23,152 (the latter now at the head of my herd), and out of cows representing the Craggs, Dewdrop, Rosamond, Janthe, Mary Ann and other families.

BERKSHIRE AND ESSEX PIGS

from my imported and prize-winning Boars and Sows, some of which have few equals and no superiors. Berkshires all recorded in the "Berkshire Record."

SOUTHDOWN SHEEP

descended from the very best importations, and bred to rams bred by Mr. Cornell, of New York.

*Bronze Turkeys, \$7 per pair. White-faced Black
Spanish Fowls, \$6 per pair. Scotch Colly
Shepherd Pups, \$5 each.*

Don't send North for stock, when you can get the same from me, and save transportation charges. My motto is to keep up with the improvement of the age; and I do not intend that anybody shall excel me. Fair dealing and satisfaction in all cases! For Price-lists, Catalogues, or other information, address

A. M. BOWMAN,
Waynesboro, Augusta co., Va.

GERMAN POTASH SALTS

(KAINIT)

Calcined, ground and wholly soluble. containing 24 to 30 per cent. **SULPHATE OF POTASH**, being the **Cheapest** source of **POTASH** now available. Also

MURIATE OF POTASH,

80 per cent. and upwards strength.

Orders for future deliveries will receive prompt attention. A supply constantly on hand in stores.

W. G. Price, Jr., Importer,

OFFICE 103, West Lombard Street, between Light and Calvert.

WAREHOUSES.—13 Hollingsworth St., 31 Grant St.

I here annex a few extracts from letters written to me by several leading chemists:

BALTIMORE, June 17, 1876.

W. G. PRICE, Jr., Baltimore, Md.

Dear Sir.—The introduction of the "German Potash Salts," Kainit and Muriate of Potash, has been of the utmost agricultural importance—I have analysis of samples from various cargoes you have imported, shows the article you deal in to be of excellent quality.

Respectfully, etc.,

P. B. WILSON,

Professor of Chemistry in the Washington University School of Medicine.

UNIVERSITY OF GEORGIA, GEORGIA STATE }
COLLEGE OF AGRICULTURAL & MECHANICAL ARTS, }
ATHENS, GEORGIA, May 27, 1876. }

W. G. PRICE, Jr., Baltimore, Md.

Dear Sir.—I have no hesitation in expressing the opinion that the "German Potash Salts" are of the greatest value to the agriculturists, and that either of themselves, or in connection with other proper substances, they constitute excellent and economical fertilizers.

The discovery of the "Stassfurt Salt Beds" and the application of their Potash Salts in agriculture, ranks in importance with the discovery of the Phosphatic deposits of South Carolina, and the method of rendering Bone Phosphate soluble. I cannot emphatically endorse the use of these "German Potash Salts," by the agricultural community.

Yours truly,

Prof. H. C. WHITE.

BALTIMORE, June 8th, 1876.

W. G. PRICE, Jr.

Dear Sir.—I can fully endorse the use of the "German Potash Salts," as a necessary constituent of all first-class fertilizers, giving life, vigor and growth to the plants, &c., thereby increasing their yield.

Yours truly,

Prof. W. LESLIE ROBINSON,
Analytical and Consulting Chemist.

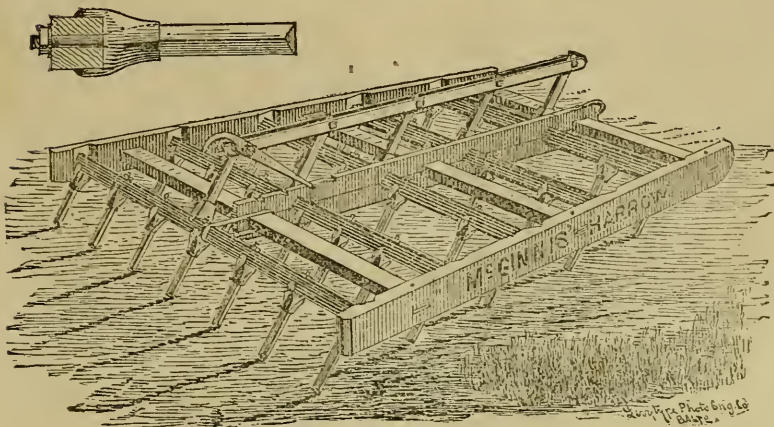


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Only double Ring
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The only Ring
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from rooting. No
sharp points in the
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CORN HUSKER**
Is the best Husker in the
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Only single Ring
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points in the
nose to keep it
sore.

The Double Ring can be inserted with **CROSS BAR** in **FRONT** of **NOSE** or on **Top**. Should **not** accumulate in top of nose insert so that Cross Bar comes in front and not on top of nose.

Ringers, 75c.; Rings, 50c. 100; Holders, 75c.; Huskers, 25c.

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A Large and Well Assorted Stock

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PRICES TO SUIT EVERYBODY.

Black Silks at 90c., \$1, \$1.25, \$1.50, \$1.75, \$2, and up to \$3.50 per yard—all very cheap. Colored Silks in great variety, at all prices. Black and colored Casimere and French Merinos; Black Alpacas—the cheapest ever offered—at 25, 30, 35, 40, 45, 50c., and up to \$1 per yard. Black Mohairs, in fine qualities, from 60c. to \$1.25 per yard—as brilliant as silk. Black Bombazines from 60c. to \$1.75 per yard.

A full assortment of Fancy Dress Goods of the most fashionable styles. White and Colored Flannels, in plain and twilled, at lower prices than ever known. Our stock is too large to enumerate prices.

Goods for Boys' and Men's Wear in all styles and qualities, including the celebrated Charlottesville Woollens—all to be sold at hard-time prices. White and Colored Blankets in all sizes and qualities. We give extraordinary bargains in this article. So don't purchase until you have examined our stock. Calico Comfortables of our own manufacture at \$1.50 and \$2. Horse Blankets very cheap. Canton Flannels from 10 to 30c. per yard. Bed-tick from 10 to 25c. per yard. Cheviot Shirtings from 10 to 25c. per yard. Bleached and Unbleached Cotton Sheetings and Shirtings retailed at wholesale prices. Table Damask, for table-cloths, all pure linen, at 60c. per yard, worth 85c. Doylies or Fringed Napkins from 60c. to \$2 per dozen. Turkey Red Doylies from 75c. to \$2.50 per dozen. Large size Pure Linen Napkins from \$1 to \$6 per dozen. Linen Huckaback Towels at \$1, \$1.25, \$1.50, \$1.75, and up to \$12 per dozen. Red Wine Cloth at 75, 85c., \$1, and up to \$1.35 per yard. Nottingham Curtain Lace at 15c., worth 25c. per yard. Nottingham Lace Curtains at \$2, \$3, \$4, and up to \$20 a set for two windows, worth 50 per cent. more. Tapestry, Brussels, Three-ply, Ingrain, Rag, Cottage, Hemp, and Venetian Carpet in all qualities and prices. Rugs, Mats, Hassocks and Oil-cloths. All wool Table-Covers at \$1, 1.25 and \$1.50. Piano Covers from \$5 up to \$12. Tidies in all sizes, in great variety, and very cheap. All kinds of Merino and Lamb's-wool Undergarments for men, women and children, at lower prices than ever known before. Yak Laces from 15c. to 75c. per yard. Ruffles at 20, 25, 30, 35, 40 and 50c. per dozen. Boulevard and Balmoral Skirts in all qualities. Linen Collars and Cuffs in great variety at very low prices. Silk Ties and Scarfs of the latest styles at prices to suit all. Ribbons in all widths and colors at low prices. Silk Handkerchiefs for ladies and gentlemen. Gentlemen's Furnishing Goods in great variety, and at lower prices than usual.

Ready-made Closed Front 'Shirts of our own manufacture, made of the best Wamsutta cotton, fine Irish linen, and completely finished; have only to be laundered before wearing. Having largely increased our facilities for manufacturing these shirts, we are enabled to reduce the price to \$1. We guarantee them to be in every respect as good as the shirts we have heretofore sold at \$1.25. Open-front Shirts at \$1.25, or six for \$7.

Ready-made Garments for ladies in great variety. Shawls in all sizes and qualities; also a full assortment of Cloaks.

Our stock is worthy of the attention of all purchasers of DRY GOODS, as we show, at all times, an assortment that cannot be surpassed in this city.

We only enumerate a small portion of what we have.

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1017 AND 1019 MAIN STREET,
Nov—tf Richmond, Va.

VIRGINIA Agricultural and Mechanical College.

SHORT-HORN CATTLE

—AND—

BERKSHIRE SWINE, For Sale at the College Farm.

The Swine are bred directly from recent importations, and from the stock of Maj. J. T. Cowan, and A. M. Bowman, Esq. At the head of the Shorthorn herd is the Bates Bull, Raleigh, bred by Maj. Cowan; sire and dam both bred by Abram Renick, of Kentucky, and both of the celebrated Rose of Sharon family. This Bull is believed to be equal in breeding and quality to any in the State. The cows are from the herds of Messrs. William A. Stuart, George W. Palmer, and John T. Cowan, and are animals of good pedigrees and excellent qualities. Stock will be sold at prices and on such terms as will enable farmers to obtain them. Correspondence invited.

july—tf

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Pleasantly located on Twelfth Street, facing Bank Street and the Capitol Square. In the centre of the business portion of the city, within one square of the Post Office and Custom House, it is, by its retired location opposite the southeast corner of the beautiful park surrounding the Capitol of Virginia, the most quiet hotel in Richmond.

The proprietor having had a life-long experience in hotel business—first at the Everett House, New York, and afterwards as proprietor of the Spotswood Hotel, Richmond, in its best days—and now assisted by Mr. JOHN P. BALLARD, the popular veteran hotel-keeper of Virginia, assures visitors of the ST. JAMES that no effort on his part will be spared to make them comfortable and to keep the house in first-class style. Coaches will attend the arrival of all trains. Elegant carriages are at all times at the service of the traveling public.

june

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Peruvian Guano Guaranteed.

By this Brand is designated *Pure and Genuine Peruvian Guano*, in which the lumps have been crushed, stones (when found) and all other impurities, removed:—it is, therefore, sold in *purser condition* than when landed from *Peru*.

Put up in bags of 200 pounds each, on which the *guaranteed analysis* is printed, and the *retail price* per ton of 2,000 pounds clearly marked.

The retail price is fixed according to the analysis, at the following rates, which are considerably below those adopted by Inspectors of Fertilizers in this country, or the trade in Europe, thus making the Guaranteed Peruvian Guano the **cheapest Fertilizer in the world**.

For Ammonia	17½c. per pound.
“ Soluble Phosphoric Acid	10c. “
“ Reverted “	8c. “
“ Insoluble “	2c. “
“ Potash (as Sulphate)	7½c. “

NONE GENUINE unless put up as above and bearing the following Trade Mark of the undersigned, Peruvian Government Agents in New York, and **Lead Seals**—on which the Monogram of the Trade Mark is stamped—attached to the extremities of the twine with which the mouth of the bag is sewn, to guard against adulteration.

As a specimen of Analysis and Price of Peruvian Guano Guaranteed, we give those of two cargoes, now on sale, respectively designated **A and B**.



CARGO A. PRICE MARKED \$56.

Ammonia.....	6.80	per cent.....	\$23 80
Soluble Phosphoric Acid.....	3.80	“	7 60
Reverted “	11.50	“	18 40
Total available Phosphoric Acid.....	15.30	“	
Insoluble Phosphoric Acid.....	3.00	“	1 20
Potassa.....	3.70	“	5 55

Estimated Retail Price.....\$56 55

The commercial value of the above Guano is \$79.40 per ton, at the rates lately adopted for valuing fertilizing ingredients, by Hon Thomas P. Janes, Commissioner of Agriculture of Atlanta, Georgia, and State Inspector, Prof. Wm. I Land, Chemist of the Department of Agriculture, which are as follows:

For Ammonia.....	18½c. per pound.
“ Available Phos. Acid, (Soluble and Reverted).....	15½c. “
“ Insoluble Phosphoric Acid.....	4½c. “
“ Potassa.....	6½c. “

Thus, the commercial value of the above Guano is fully **42 per cent. in excess of the selling price, \$56 per ton.**

CARGO B. PRICE MARKED \$70.

Ammonia	11.50	per cent.....	\$40 25
Soluble Phosphoric Acid.....	5.40	“	10 80
Reverted “	10.00	“	16 00
Total available Phosphoric Acid.....	15.40	“	
Insoluble Phosphoric Acid.....	1.70	“	68
Potassa.....	2.30	“	3 45

Estimated Retail Price.....\$71 18

According to the rates adopted by the Agricultural Department of Georgia, already recorded to, the commercial value of this Guano is \$93.83 per ton, consequently, **per cent. above our selling price, \$70 per ton.**

We invite Agriculturists to test the value of Commercial Fertilizers by our Standard, and to compare the result with their selling prices.

Liberal Discount Allowed to Dealers.

For further information, Circulars, &c., apply to

HOBSON, HURTADO & CO.,

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MASON & HAMLIN ORGAN AGENCY,

914 Main Street, Richmond, Va.,

T. L. D. WALFORD & CARLTON McCARTHY.

The Mason & Hamlin Organ Company have few rivals in the world, certainly not in America, in the manufacture of Cabinet Organs. Their reputation is well founded and world-wide; both their list of testimonials and their catalogue of instruments are extensive. Whether an organ be purchased at the warerooms in Boston, New York, Chicago, London, Vienna, Melbourne, or Richmond, it may safely be called a good one, if manufactured by Mason & Hamlin, of Boston. The most evident excellences of these organs are resonance and singing quality of tone and scope of expression, combined with simplicity and freedom of action of bellows and keys.—*New York Tribune.*

THE MASON & HAMLIN ORGAN CO. have the honor to announce that the Organs of their manufacture have been unanimously assigned "the first rank in the several requisites of instruments of the class" by the judges at the Centennial Exhibition at Philadelphia, 1876, and are the only instruments of this general class awarded this rank. This is after the severest competition by the best makers, before one of the most competent juries ever assembled.

They have also received the medal, but as is well known, medals of equal merit have been awarded all articles deemed worthy of recognition, so that it will be easy for many makers to advertise that they have received "first medals."

The difference in competing articles, and their comparative excellence, are recognized in the reports of the judges, from which the following is an extract:

"The Mason & Hamlin Organ Co's exhibit of Reed Organs and Harmoniums shows the instruments of the first rank in the several requisites of instruments of the class, viz: Smoothness and equal distribution of tone, scope of expression, resonance and singing quality, freedom and quickness in action of keys and bellows, with thoroughness of workmanship, combined with simplicity of action."—(*Signed by all the Judges.*)

The Mason & Hamlin Organs are thus declared to rank first, not in one or two respects only, but in the several requisites of such instruments, and they are the only ones assigned this rank. This triumph was not unexpected, for the Mason & Hamlin Cabinet Organs have uniformly been awarded the highest honors in competitions in America, there having been scarcely six exceptions in hundreds of competitions. They were awarded highest honors and first medals at Paris, 1867; Vienna, 1873; Santiago, 1875; Philadelphia, 1876; and have thus been awarded highest honors at every world's exposition at which they have been exhibited, being the only American Organs which have ever obtained any award at any competition with the best European makers, or in any European World's Exposition!

HOW TO BUY AN ORGAN.—The Mason & Hamlin Organs may now be bought very low for cash, or on easy terms: By the payment of one-tenth of the catalogue price cash, and one-tenth every three months until ten payments are made. For instance: To purchase an organ worth \$150 you pay \$15 cash, and \$15 every three months till ten payments are made. Thus purchasing an organ by the payment of \$5 per month, which is only the rent of a piano.

Illustrated and descriptive catalogues and prices and any desired information sent free to any address on application. Large reductions for cash.

T. L. D. WALFORD & CARLTON McCARTHY,

Agents Mason & Hamlin Organ Company, 914 Main St., Richmond, Va.

Also agents for Decker Pianos, and dealers in Pianos and Organs of any maker.

feb—6t

CHESAPEAKE OHIO RAILROAD.

PASSENGER DEPARTMENT.

CONNECTIONS OF PASSENGER TRAINS FROM RICHMOND.

9.00 A. M. Mail, daily except Sunday—daily west of Hinton. Arrives at Gordonsville 12.45 P. M., connecting with Virginia Midland train at 1.10 P. M., arriving at Washington 6 P. M. for all points North. Arrive at Charlottesville 1.35 P. M., connecting with Virginia Midland train at 1.55 P. M., arriving at Lynchburg 5 P. M. for all points South; arrives at Huntington 10 A. M.

3.45 P. M. Accommodation, daily except Sunday, arrives at Gordonsville 7.30 P. M., connecting with Virginia Midland train at 7.40 P. M., arriving at Washington 11.55 P. M. for all points North.

10.45 P. M. Express, daily. Arrives at Gordonsville 2.40 A. M., connecting with Virginia Midland train at 2.50 A. M., arriving at Washington 7.30 A. M. for the North; arrives at Charlottesville 3.35 A. M., connecting with Virginia Midland train at 7.55 A. M., Arriving at Lynchburg 11.07 A. M. for the South. Arrives at Huntington 6.45 P. M., connecting closely with C. & O. Packet Steamers or Cincinnati, Louisville, St. Louis, Chicago and all points in the West, Northwest and Southwest.

FROM HUNTINGTON.

4.10 P. M. Mail, daily to Hinton—daily, except Sunday, East of Hinton. Arrives at Charlottesville 11.40 A. M. connecting with Virginia Midland train at 1.55 P. M., arriving at Lynchburg 5 P. M. for all points South, via Virginia and Tennessee Railroad; arrives at Gordonsville 12.35 P. M., connecting with Virginia Midland train at 1.10 P. M., arriving at Washington 6 P. M. for all points North. Arrives at Richmond 4.30 P. M.

10.30 A. M. Express, daily—arrives at Charlottesville 1.50 A. M., connecting with Virginia Midland train at 7.55 A. M., arriving at Lynchburg 11.07 A. M. for all points South. Arrives at Gordonsville 2.35 A. M., connecting with Virginia Midland train at 2.50 A. M., arriving at Washington 7.30 A. M. for all points North. Arrives at Richmond 6.30 A. M., connecting with Richmond and Danville 7.50 A. M., and Richmond and Petersburg 7.25 A. M. Trains for all points South.

N. B.—The 8.10 A. M. train from Washington arrives at Gordonsville 12.40 P. M., and connects with Chesapeake and Ohio mail trains, both for Richmond and Huntington. The 9.50 P. M. train from Washington arrives at Gordonsville 2.40 A. M., and connects with Chesapeake and Ohio express trains, both for Richmond and Cincinnati.

The 9 A. M. train from Lynchburg arrives at Charlottesville 11.55 A. M., and connects with C. & O. mail train for Huntington, and at Gordonsville 12.40 P. M. with C. & O. mail train for Richmond.

The Richmond and Danville and Richmond and Petersburg trains arriving from the South at 8 P. M., connect with Chesapeake and Ohio express train, leaving Richmond at 10.45 P. M. for the West and North.

CONWAY R. HOWARD,

General Passenger and Ticket Agent, Richmond, Va.

W. M. S. DUNN,

Engineer and Superintendent of Transportation.

jan—tf

PURE BRED

SHORTHORN CATTLE,

Cotswold and Southdown Sheep
AND BERKSHIRE PIGS,

For sale at "CLINCHDALE," Bean's Station
Grainger county, Tenn.

jan-ly J. T. & W. S. SHIELDS.

\$12 a day at home. Agents wanted. Outfit
and terms free. TRUE & CO., Augusta,
Maine, jan-ly

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I respectfully announce that I have opened a Laboratory for the Analyses of Fertilizers, Fertilizing Materials, Minerals and Feeding Stuffs for the moderate charge of five dollars. Analyses of Waters, Soils and Ash of Plants. Charges on application. Samples not less than one pound sent by mail.

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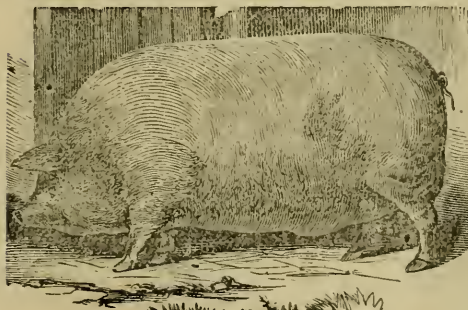
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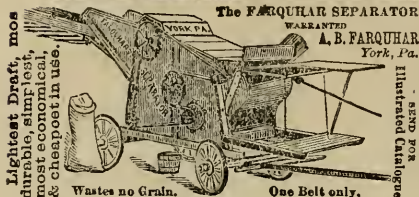
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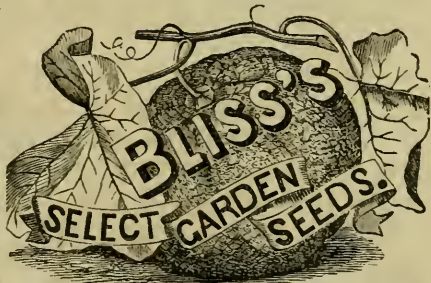
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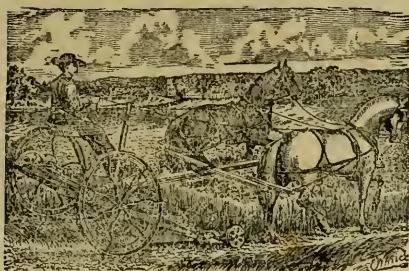
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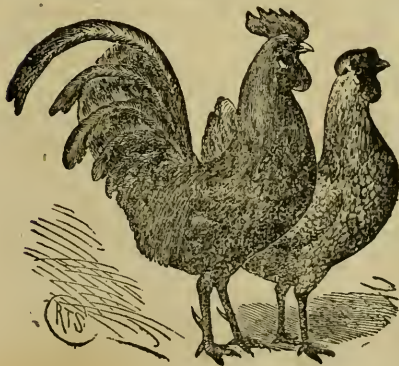
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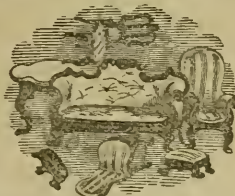
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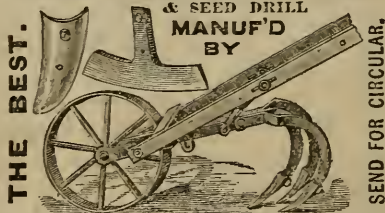
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RICHMOND, VA.,

JULY, 1877.

No. 7.

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L. R. DICKINSON, - - - - - EDITOR AND PROPRIETOR.

Vol. XXXVIII. RICHMOND, VA., JULY, 1877.

No. 7

[For the Southern Planter and Farmer.]

COL. SCOTT ON THE CAPABILITIES OF SOUTHSIDE VA.

I scarcely know upon what particular subject to write in reference to the agriculture of the Southside section of Virginia, which is now, and has been in such a low and depressed condition ever since the close of our unfortunate sectional war. My remarks must be of a very general and unconnected nature, owing to want of practice in the art of putting my thoughts and observations in such a clear manner as to be well understood by the many intelligent readers who patronize your valuable journal. But, if you will make all necessary corrections and take the trouble to put my desultory essay in a readable shape, I will try to make a few suggestions on our Southern agriculture which may be worthy of some little consideration from my brother farmers.

The results of the war and the emancipation of our slaves left the people of the Southside in a very impoverished and helpless condition, and placed every man, woman and child upon their own individual resources, mental and physical; their lands exhausted by a long course of bad cultivation, laden with debt, unaccustomed to labor, and without habits of economy and regular industry, and possessing no knowledge or experience in the use and employment of hired labor in the cultivation of land, and that labor utterly unreliable and demoralized, by vicious teaching and sudden freedom—under all these unfavorable circumstances it is not very surprising that our people have not adopted a new system and made a new departure in order to improve their social and material condition. Yet this was necessary to effect this grand object, for we must all know that the old system of cultivation and the keeping up of large farms are not and cannot be profitable under the changed condition of labor. Even before the war and emancipation the agriculture of Southside Virginia for a number of years had been unprofitable so far as the production of the land was concerned. The great and only profit was

the rearing of slaves and their high value in another land when the cultivation of cotton was more remunerating than any kind of crops that we could raise.

The statistics of our State will show that before the war the value of the tobacco and wheat exported from Southside Virginia did not exceed, on an average, more than \$9,000,000, while the sale and transportation of slaves to the South amounted to more than \$12,000,000 annually. This, then, was our condition at the close of the war, and I will now ask whether there has been any general improvement in our lands or resources since the advent of peace? On the contrary, I believe our condition is worse, and that our lands are annually declining at least 25 per cent. under the ruinous system pretty generally followed of renting out to ignorant and thoughtless laborers and working in partnership with such. I hold it to be certain that no farmer permanently settled can be prosperous if he is not making the necessary supplies for his farm and improving his land at the same time. And while a few large planters, by extraordinary energy and industry, with very rich lands may be able to keep clear of debt, yet there are hundreds, both large and small, who do not pay expenses or make any improvements whatever. And most of the planters who make these large crops in this day, do so at the expense of the fertility of the land, the expense for fertilizers, labor, and taking all the profits, and the land gradually getting poorer every year. Just in the same way that the excessive production of tobacco by slave labor exhausted our lands and rendered them unprofitable to work with hired labor, on a large scale, at any price, much less at the price of such labor as we are now compelled to employ, which, by the way, I believe to be the best and better suited to our habits, with all its faults, than any we could procure, either foreign or domestic. Our lands which formerly sold from \$10 to \$20 per acre, now only bring from \$3 to \$5 or \$6, and very often not able to be sold at all at any price, and even when sold are seldom paid for, and have to be sold over again. Now, this is a gloomy picture, but none the less true on that account; and I may be asked, how will you provide a remedy? In the first place, we must be interested in our calling, and have our hearts and minds devoted to our business, and be satisfied to live on our own farms and keep clear of all other interests—especially speculations—and not be always willing to sell out and go into some other occupation, or seek a new location. The great error committed was to undertake to carry on the farm with the same amount of hired labor and cultivating a large portion of poor land which could not pay the expense of cultivation. Now, our only hope is to employ no more labor than we have rich land to work. Unless the land will bring ten barrels of corn, twenty bushels of wheat, and 1,200 or 1,500 pounds of tobacco to the acre, there may be a living obtained, but no profit. We should employ the best laborers we can find, and pay them as liberally and as punctually as we can. Never deceive a negro in the smallest matter in reference to a bargain; if hired by the day, month or year,

pay him promptly at the time his money is due; and never change, but keep the same regular hands year by year, if you can. I do not think there is more than one-fifth of the arable land on any of our large farms worth cultivating in its present state of fertility. Hire no more hands than the best lands will employ; make an abundance of corn, wheat and oats for the supply of the farm, and raise enough pork for the same. Keep sheep and cattle enough for the use of the farm, and some of all to sell to help out for family expenses; and, above all, buy nothing that can be made and raised on the land for our comfort and support. Be sure and not buy on a credit or go in debt, if possible to be avoided; and by industry, skill and general good management, we are bound to succeed at least in doing well and making a little money too. At the same time, our wives and children must practice economy and industry, and be satisfied to follow a fashion of their own invention, decent and comfortable, and not be led astray by the folly and extravagance of Northern society which has flourished for so many years on Southern production and useless expenditure.

There is no portion of our beloved old State where farming can be pursued with more advantage than Southside Virginia, if our people will only become interested in their calling, and conduct their farms on self-sustaining principles, cultivate no land that will not pay expenses, and hire no more labor than enough to work upon such land.

I will now give a short account of my own farming operations since the war: My farm consists of about 1,000 acres of originally fine land, but a large portion worn down and turned out like most of the lands exhausted by the long cultivation of tobacco and close grazing system of our ancestors; and while I employed eighteen or twenty hands upon this farm before the war, and supported some sixty slaves in all, under the present state of things, I have only employed five or six regular hands to work the best land upon the farm. I formerly worked the farm in three large shifts; after the war I turned one shift into standing pasture, fenced in, and divided the other arable land into four shifts, which I have been working ever since—about sixty acres in each parcel. Much of this land barely pays the expense of cultivation. I pay my regular hands \$100 to \$120 per year—pay them punctually half yearly; find them in provisions and homes and a small garden for vegetables, but no side crop, and allow them to raise each two hogs, one of which is mine at killing time, and they generally weigh 200 pounds; of course they are pretty well raised at my expense. I treat them kindly, but am strict in my management, and they have generally worked cheerfully and lively and made enough to support the farm and all expenses every year since the war, and more than half the time a moderate profit besides. I have had the same regular hands most of the time; lived abundantly; gradually improved my land thus divided into four shifts; my homestead enclosures and buildings kept in good repair. My usual crops have been 12,000 or 15,000 pounds

of tobacco from about fourteen or fifteen acres of land, 150 to 200 barrels of corn; oats and other forage in abundance; raise a little pork for sale, one or two beeves, and sell enough lambs and wool every year to pay the hire of one hand. I keep my tobacco lots sowed down in orchard-grass and clover after the crop of wheat is taken off, and sow no land in wheat except the lots in tobacco, which generally yield from fifteen to twenty bushels per acre; and raise horses enough for my own use, or to pay for the mules which I employ in part on the farm. I do not use a large amount of commercial fertilizers annually; about one or two tons of Eureka or other valuable superphosphate, two tons of plaster, one of salt and one of Lee's agricultural lime for all crops, grass and clover included, to aid and help out the manure raised upon the farm, which is chiefly the main reliance. I employ no capital or other means to carry on the farm, except what is furnished by the proceeds of the farm itself; and I am not sure that we could do much better if we had the use of money at command for that purpose, as our people have had no training or experience in the use of money applied to the hire of labor and in the improvement of land. And our only hope for better times in the future is to train up and educate our young people to meet the exigencies of our situation by habits of practical industry, and application; learn the use of all mechanical improvements in farming implements, the nature of soils, application of fertilizers, the rearing of good stock, and, above all, the improvement of lands to their highest point of fertility; give them a fondness for home and a love for their native soil, and to rely upon their own resources, physical and mental, for success in the battle of life; and finally to pay the same attention and make the same effort to acquire knowledge and skill in the exercise of their calling as have ever been employed by those who have distinguished themselves in what we call the learned professions, for I am certain it requires as much talent, energy, skill and knowledge to succeed in our noble calling as it does to acquire distinction in any of these useful and necessary avocations; and I will conclude with old Virgil's encomium on rural life—" *O fortunatos agricolas nimium fortunatos si sua bona norint.*"

Charlotte, Va.

W. T. SCOTT.

P. S.—Perhaps I ought to have stated that my tract of land contains not more than sixty acres of low grounds which were well drained, ditched and highly productive before the beginning of the war, but owing to the filling up and obstructions accumulated in the bed of the creek for seven or eight miles below me, I have not been able to obtain more than half crops from their cultivation during the last ten or twelve years. And I may state the further fact, that there are below me, on the same stream, five or six large plantations containing not less than 1,000 to 1,500 acres each, formerly well managed and highly profitable to their owners, which do not now, in the aggregate, produce as much crop as one of them did in the olden times, when they were not worked as they now are by idle and thriftless occupiers and renters.

W. T. S.

[For the Southern Planter and Farmer.]

BONE AGAIN.

As a sequel to the article I sent you last month on the good effect of bone on both crops and land, I have this to add. I would be glad if any one who reads this would read that article again, and also the very practical one on the same subject in the June number, by Mr. George Chrisman, of Rockingham. I have the facts given below from two independent sources; so I think them reliable.

About ten years ago a gentleman in Cecil county, Maryland, at the head of the Chesapeake bay, bought a tract of land—quantity unknown, but not less than 200 acres—for which he paid \$20.00 per acre. The land was rolling, covered with bushes, brush, oak saplings, not larger than hoghead hoop-poles, with not an acre of cleared land on it. He cleared it up, and sowing 1,000 lbs. bone to the acre, planted it in corn. The corn was followed by wheat and timothy with 500 lbs. of bone additional per acre. The wheat was harvested by the purchaser. But the following Spring, before the grass was cut, he sold the land at \$100 per acre. The seller estimated that the crop of corn and wheat paid for the bone and the expense of clearing the land and working the crops. If so, the profit in three years on the land was \$80 per acre, or 400 per cent.

Since the present owner has had the land he has applied to it only the domestic manures and thirty bushels of lime per acre. There has been no occasion to apply anything else, because the land was "made" by the bone. What the bone cost I do not know; nor is it material to state, for against such results any one may state what expense account he pleases.

Let the reader bear in mind that in the last number of the *Planter* I stated that land, thus improved by a sufficient quantity of good bone and put in grass was worth intrinsically \$100 per acre. Here we see that the land thus improved *sold* at \$100 per acre; and then let the reader reflect if it be not far wiser thus to improve a smaller area than to put a homœopathic dose over the whole farm; to make, if his land is worth \$20, 400 per cent., if \$10, then 900 per cent. in three years.

FRANK G. RUFFIN.

[For the Southern Planter and Farmer.]

DOES COTTON PAY?

You ask me to review two articles in *The Planter and Farmer* on cotton culture, price, &c. The first one by S. Wyatt. He makes a mistake when he says the seed of a 300 pound bale will make 1,500 pounds seed. If the cotton is good it would leave only 600 pounds of seed—poor cotton, 700 pounds. Thirty to thirty-three and a third pounds of lint is the usual quantity to get out of 100 pounds seed cotton. Cotton seed is not worth more than $33\frac{1}{3}$ cents per 100 pounds as manure. The seed out of a 300 pound bale is worth say \$2 to $\$2\frac{25}{100}$. Hired labor and tenants don't do well on the

same place; hired hands will not work any better than tenants, and they will bring the land holder in debt.

J. L. Wilson's article is mostly correct, but I do not think he attributes the prosperity of the planters with good gates, fences, fat stock, entirely to the right cause; they are different men, and would prosper under other circumstances.

Cotton cannot be raised low under any circumstances. Free negroes pay better here making cotton than any other crop. Cotton stands rougher treatment and more neglect than any other crop. Negroes are too slow and rough to make corn. The reason why it will not do to raise cotton to buy provisions with depends more on this than any other thing.

Making all cotton lowers the price; buying provisions raises the price that reduces cotton labor, and increases the cost to raise it, in increased prices for provision. This is an intricate subject and I will not now go into details.

It is estimated that in Georgia it takes three acres to make 400 pounds lint, and one hand will cultivate nine acres, making 1200 pounds lint. Fifty dollars is a good average to the hand in all other crops. Cotton at 10 cents at home and other crops is \$170. Labor, one-third; land, one-third; mule-power, tools, feed, machinery, house to live in, good attention and other items, one-third. So you see the hand has to live on \$56.66, and feed himself and dependants.

My opinion is, cotton cannot be made, under all the circumstances, for less than sixteen cents. You may say, "Why make it?" It is the best that I can do, and I had rather have a profit of $2\frac{1}{2}$ per cent. than nothing. Quit planting cotton, and fences, houses, and everything would go down. Some of the reasons are, the work is only half done, only work two-third time, expenses increased 100 per cent. in horse-power and tools in crop made. I only average about one-quarter per hand what I did under the old system. Every negro has a cook and nurse. Goes to mill with half to two bushels of grain—to shop with one plow; loses a day every time one is buried in from five to ten miles; loses time with all kinds of societies. They say they work harder than they did in old times.

Before the war, I made from ten to sixteen bales cotton to the hand, 8 to 1200 pounds, meat, and 300 bushels of grain, without driving; twenty to twenty-five bales of cotton to the mule, and saved nine-tenths of the contingent expenses.

Sparta, Ga.

DAVID DICKSON.

"The early bird gets the worm," and the early vegetable gets the market. Those who get into market first with their produce have the high fancy prices; the slower must be content with the prices which follow full supply.

[The two articles below from Dr. Pollard were mislaid, and unintentionally omitted until this time.—EDITOR.]

[For the Southern Planter and Farmer.]

GRAPES—DR. POLLARD'S REPLY TO MR. LOUIS OTT.

Mr. Ott says, I have confessed my incompetency to discuss this subject. He evidently does not understand the English language as well as I supposed. In my last article, I said I wished "some one *more* competent than myself would undertake the discussion," not that I felt unable to make good the objections I had made against Mr. Ott's articles, but because I considered the subject an important one, and desired to see it discussed in all its bearings, and to have the experience of the different grape growers in Virginia. Now Mr. Ott may be competent to treat of grape growing in Virginia, but I doubt not there are others *more* competent to do the same thing. I hope he will comprehend now the force of my language in my article, in September number of this Journal.

Mr. Ott quotes me as saying that results in wine making in Virginia, *will* be reached, &c., while I said *may* be reached, and at the same time intimates that it becomes me to speak in "an interrogatory and modest way." In professing my incompetency, as he says, was not that modest enough for him; and as to "interrogatory," I shall take care to ask questions on this, and other subjects, of those who have shown themselves competent to answer them.

As to my "stories," the one regarding the "sherry" made from the Clinton grape, I had the statement from a gentleman very reliable, and who had been engaged in the sale of wines for a number of years in Richmond, and did not give it on my trial of the wine. He says he can find no word in the English language to express his appreciation of this "story." I would suggest that he probably wanted to say "absurd," unless indeed, that would be too weak for him. The other "stories" were given on the testimony and taste of gentlemen of Richmond, who I suspect are really as good judges of wine as Mr. Ott. But perhaps he meant to say these "stories" were of my own manufacture, and that the gentlemen alluded to, are "men of straw." Mr. Ott objects that I make the bold assertion that no man is authorized to speak so *ex cathedra* on this subject as he did. I am bold enough to repeat the assertion. Among other assertions of Mr. Ott I objected to, was one "that there was not a foot of land in Virginia which would make a claret wine." I instanced to him how wines varied entirely in quality made from grapes growing very near to one another, and that there was only a very small district that would produce "Johanisberger," and a small district that would produce "Port." Mr. Ott proves by his assertion that Piedmont Virginia was the *habitat* of the grape (that is, I presume, "par excellence," and peculiarly its habitat) that he had not examined Eastern or Tidewater Virginia. I make the assertion that the native grapes succeed better in Tidewater portion of the State, than in the Piedmont and mountain region. The first portion I am familiar with and the other portion have visited frequently. The "Norton Seedling" came from "Hanover" below Tidewater, having been brought from there by Dr.

Norton. I have this on the testimony of the late General W. H. Richardson, who told me he had seen the vine from which Dr. Norton propagated the "Norton Seedling." The Muscadine or Sloe, the Fox grape, and the small black grape, very similar to the Norton Seedling, if not identical, (the only difference being probably caused by cultivation), all arrive to perfection—the first on the Pamunkey and Mattaponi rivers, and probably elsewhere; is an excellent grape, and the two latter very eatable grapes and much relished by the inhabitants before the introduction of better varieties.

Another statement of Mr. Ott's I objected to, was regarding the Concord grape, which I think he treated very unfairly, saying it was "only valuable as a table fruit on account of the size of the bunches, and of its fine appearance." I do not believe that any man, woman or child, in this section, would endorse this opinion. I know the fact that many prefer it in the Richmond market, as a table grape, to any other sold there, and that in the year 1875 it sold better in this market than the Catawba, and as well as the Delaware. I did not observe the sales in 1876 particularly as I did in 1875. I, with many others, regard it as the grape for "the million," and I believe I adduced very good testimony to prove it makes a very good wine—although Mr. Ott can tell from the taste of the grape, that it is impossible for it to make wine. Mr. Ott admits that grape growing and wine making in Virginia are in "their infancy," and yet contends he is authorized to speak in an *ex cathedra* manner on the subject.

Mr. Ott makes a curious and inconsistent statement in his article last March. After inveighing so strongly against the adulteration of wine by sugar, he says in praise of the Norton, "I am sure with *judicious* treatment (*italics mine*) a wine can be made of it which comes near Port." Now I make the "interrogatory," Can Port wine be made without sugar? If it cannot, then Mr. Ott sanctions an adulteration and an imitation, though he says I am discussing *imitations*, and he *wine making*. I suppose to encourage Champagne and Port, to say nothing of Scuppernong, manufacture and drinking is to sanction imitations, and, he says, dishonesty, too. So a gentleman cannot make wine with sugar, though he make no concealment of it, without being engaged in a "dishonest business." A considerable quantity of Scuppernong now is sold in our Richmond market by North Carolina manufacturers who make no concealment of the use of sugar, and of course, according to Mr. Ott, they are engaged in a "dishonest business." But perhaps he does not comprehend the meaning of the words he is using. When we remember that Mr. Longworth predicted that the Norton Seedling was worthless for wine making with as much confidence as Mr. Ott predicts that the Concord cannot make wine, we see another reason for believing that Mr. Ott *may* be mistaken. I am done with Mr. Ott and the subject since it has unfortunately narrowed down to a question of competency and incompetency. I did not so wish it; only in my former articles expressing the opinion that Mr. Ott, though fully understand-

ing the grapes and wine making of his native country, which I was willing to concede, was not competent to speak in such an *ex cathedra* manner regarding our "grapes and wines" which he concedes are yet in their infancy, and that he had made several mistakes in his treatment of the subject.

In conclusion, I will say, Mr. Ott deserves credit for his singular disinterestedness in his motive for acquiring the English language, and when he achieves the results he hopes for, no doubt he will receive the thanks of the people of Virginia, including my humble self.

T. P.

Henrico, December.

[For the Southern Planter and Farmer.]

PEAR CULTURE.

A CASUAL REVIEW OF ARTICLES ON PEAR CULTURE IN THE OCTOBER AND DECEMBER NUMBERS OF THE "PLANTER AND FARMER" WITH REMARKS.

Page 683. Pear trees succeeding best on the sight of an old smoke-house and cabin, and next best on good soil fertilized with woods mould.

Query—Would not the latter, with the addition of salt, ashes, and bone have caused fully as vigorous growth in the second instance as was found in the first? My experience would point in that direction.

This experience in the third case is that of many others, namely, disappointment.

I take exception to his theory that trees should be perfectly free from grass to prevent blight. I approve of clean culture for about five years, when, I think, the health of the tree is not jeopardized by a change to clover.

I have had six hundred trees in clover three successive years and not a twig was affected with blight. The iron filings scattered among the trees is well if there is an absence of it in the soil; most soils have a full supply as it enters so sparsely into the tree. His ideas on keeping of pears is worthy of trial.

Page 684. "Fruits of Virginia," complaining of Mr. Davis' report; its "sins of omission."

That report was intended to convey general information to the American Pomological Society, and contained an unusual amount of local information for a paper of that character, and worthy of reproduction in any periodical aiding Horticulture and Pomology.

It might be a delicate requisition on Mr. Davis, or any other responsible nurseryman, to give catalogue publicity of all information respecting the adaptability of various fruits to different localities, when it has cost them years of application to gain said information. If all who had access to such a catalogue purchased their trees in Virginia, then it might be different. My advice would be, to leave the selection to the nurseryman, when in doubt as to what you need, and you will be quite certain of varieties adapted to your locality. As a rule standard trees are preferable to dwarfs.

The Standard Bartlett comes into bearing as soon as the dwarf. The quality of the Duchesse d' Angouleme is considered much improved on the quince, and as the sap of the quince and this variety assimilate so perfectly, it is regarded preferable as a dwarf.

Clapp's Favorite comes into bearing about four years sooner as a dwarf than as a standard. It blooms a week later than the Bartlett, and matures its fruit ten days earlier, and as it is, with us, a handsomer fruit than its half parent (Bartlett) and fully its equal in flavor, it is destined to become a Southern favorite; but the fruit must be gathered some ten days ahead of maturity, else it decays at the core.

The dwarfs bear considerable cutting back for three or four years to prevent straggling head.

Standard Seckels come into bearing about as soon as the dwarfs, consequently nothing is gained in the dwarf.

So far as I have learned, the first three named varieties are rather universal in their adaptability throughout the land, and those who are too fastidious to be satisfied with these from the 20th of July till November, can satiate their appetites by planting the whole catalogue issued.

My experience in winter varieties is too limited to be satisfactory—my orchard being mainly for market and consisting largely of the first named varieties.

On the subject of blight, I have noticed that its appearance was marked after a warm spell in the Spring, then changing to cool nights and hot days; and when the difference of temperature of day and night exceeded 35° the orchard required daily watching.

Should blight make its appearance another season, I shall give Ex-Mayor Ludlow's remedy a trial, namely, the application of boiled linseed oil to the diseased parts.

In Dec. No. Page 829.—Pears and Pear Culture. The article is valuable. I do not endorse the planting of corn among the trees. I still regard the black pea sown among the trees as a valuable fertilizer and have not discovered any injury from the cultivation of sweet potatoes among them. Am sorry the Duchesse is not regarded with favor around Richmond. It is Norfolk's favorite variety.

Norfolk, Va.

G. F. B. LEIGHTON.

[For the Southern Planter and Farmer.]

FODDER PULLING AGAIN.

Mr. Shepherd in his article in the January number, complains that I think he had prejudged the matter before his experiment regarding "Pulling Fodder." I knew he supported the experiment of the "Hillsborough Farmers' Club" before he made his experiment, as being correct. If I am not mistaken in this, his mind was made up, and he entered on his experiment, expecting to confirm the conclusion that this Club had arrived at. I expressly disclaimed any intention of intimating that Mr. Shepherd would intentionally make an unfair experiment. I presume the public are tired of this discussion, and I do not propose to continue it, but I doubt if Mr. Shepherd has convinced any one but himself, that his experiment was any more fairly or accurately conducted than were those of the gentleman named by myself and Mr. Ruffin, or that the conclusion he has arrived at, is supported by either reason or analogy.

Henrico, February.

TH. POLLARD.

[For the Southern Planter and Farmer.]

NANSEMOND'S REPLY TO FRUIT RAISER.

Since writing the first article on "Fruits of Tide Water," Mr. Davis has sent me his copy of the Transactions of U. S. Pomological Society, and I have read the reports of the chairmen of the various State Committees. This report of *his* is *similar to others*—an annual-brief report on anything new in fruits or diseases of fruits and trees, that has occurred in the State since his former report and certain varieties' success in certain sections. Fruit growers and "intending emigrants" are not expected to look to these reports for instruction as to varieties to plant for profit or family use, but to the "discussion of fruits" and to be found on 33d. page of the transactions—second day, morning session—where all or most of all the known varieties of fruits are passed in review, and each member speaks for his State. If "Fruit Raiser," and the editor of the "Planter and Farmer" were aware of the above fact, I can not see how they supposed this brief report of Mr. Davis was intended as *full instructions* to Virginia fruit growers on varieties, and hence my remarks. Again, I recognize, in this report, certain views of mine as to pear blight and fruit belts of Virginia, and the mention and description of two varieties of apples originating in our county. My report to Mr. Davis was similar to the one printed in your last and former issues—brief comments on the success or failure of varieties in *my* section.

It is not fair, friend "Fruit Raiser," to say "Nansemond objects to some of the varieties of pears proposed by "Fruit Raiser." He simply states his experience on his soil, and in his section, with these kinds, and gives his reasons.

An invalid friend was supplied last year with different kinds of pears for four months from my orchard, and a bushel of "Clapp's Favorite" were kept and ripened with other sorts for his benefit. The verdict as to quality (compared with Bartlett) and core-rotting is not mine alone. The fact of the blight in the row where Bartlett and sundry other kinds were healthy, shows for itself.

Let me remind "Fruit Raiser" of a well known fact, of which, I presume, he is aware: that pear trees, of sundry kinds, will often continue in perfect health and thrift up to bearing age and then *fruit well and blight*.

In regard to B. Clairgeau, by reference to the article, it will be seen that planted in 1868, about 1872 and 1873, we had very handsome perfect fruit from these early bearing Standards; so that 25 trees more were planted at the time one hundred Bartletts were added, and if I mistake not "Fruit Raiser" planted some of these trees at the same time. Since then these older trees have *shed* their leaves, laden with fruit, and, of course, the fruit is injured. The *younger trees bear smooth fruit and hold their leaves*. It will be seen, therefore, that we must not jump at a conclusion in reference to the success of pear trees, either as to health of tree or quality of fruit and value for *market on any given soil*, and in any *climate* until the experiment of *time in years* fairly establishes the truth.

It will be gratifying, indeed, to find that pear growers around Richmond (where both soil and climate differ from ours), can avail themselves of the handsomest early Summer and Fall pears; we have recently introduced those of Clapp's Favorite and the B. Clairgeau.

I regret to say that so far as the value of pears for market or the health and success of the trees in *our climate and soils in this section of Virginia* is concerned, I do not regard the opinion of Mr. Quinn, Mr. Field, or any other northern pear grower, as worth a button; and I say this after ten years experience with about 27 kinds of pears. Of course, my opinion would be different were I located in the Piedmont, Valley of Virginia, or any *section* where varieties succeeded well and ripened for market at a season similar to that *occupied* by these practical fruit growers.

Now, in reference to his "Summer Cheese," of which we have sundry sorts. We have no local market for them *as he has*, and at the time they are ready to ship with us, apples will not pay expenses shipped North.

In regard to Peaches, the explanation is simple: "Three-fourths of the last three kinds (*i. e.*, Crawford's Late, George IV and White Heath) will supply the family well and have a surplus, with five trees (planted) for every member of the family." Say six in family, then plant thirty trees.

In closing, permit me to state that we feel almost assured now of a good crop of pears in this section the present year. There is some complaint of aborted blooms and bad fertilization from the recent storms and heavy rains, while the trees of some varieties were in full blossom.

The early apples which bore well last Spring are very *deficient in bloom*, May, Early Harvest, Early Ripe, Horse Apple, and Orange Pippin, in my orchard we find this to be the case, while the Wine Sap, Gravenstein, and sundry Summer and Fall sorts are now in full bloom and will doubtless fruit well.

It is to be hoped that we shall have a good crop of fruit and find a market for it the present year—since the loss of the peach and pear crop and the failure to market well our Early Apples for the past two years has dampened our ardor in fruit culture very much. One trucker and fruit grower was so disappointed as to root out from ground several hundred apple and pear trees the *present winter*, which he had grown with considerable expense.

NANSEMOND.

REMARKS BY J. A. LYNHAM BEFORE THE TUCKAHOE FARMERS CLUB, OF HENRICO, IN OPENING THE DISCUSSION ON "FARM WORK IN JUNE AND JULY."

This subject is a suggestive one, and in its discussion a practical lesson may be learned. For whether it be June and July, or December and January, there is not one idle day upon the properly conducted farm; or if there be, it has not been my fortune to find it.

Could this lesson be once learned by farmers, old and young, and if its teachings were zealously and laboriously adhered to, what a change would at once come over the land in which we live!

Agriculture is fast taking its position—not only as the first, but as the grandest employment of man. Grand, because it lies at the very foundation of all the material prosperity that we can look forward to in the future history of the present depressed and paralyzed condition of our country. Travel, then, around our cities (if its delightful road system will permit you), go deep down into our State,

cross its streams and on to its rich fields stretching themselves along the broad salt water, where I have been recently looking to my own agricultural interest, and then answer me if idle man is not sleeping away an existence, which serves but to prolong the ills we must bear until our deliverance from mother earth comes. Look away from our home to that rich peninsula country and of Tidewater Virginia, where the rivers carry to its door the food for man, and say if a merciful Providence has not done all and man literally nothing for its development. So around our own city here. Time is found to come into town every day, to loll around the courts, hands idle at home, and every lick not struck in time goes two backwards. Look around and tell me where are the active, industrious farmers of our own vicinity that are making the blades of grass to grow, whose fields of grain are waving in the bright sunlight of this June morning, and whose homes show the hand of tidy, happy, well governed industry—mutterings and croaking everywhere to be heard that “farming does not pay.” I say it will pay and does pay—and more—where it does not pay, in nine cases out of ten it is your own fault.

In these times of the greatest depression financially, the merchant in the city of Richmond, with \$20,000 invested in his business, is content with unremitting application, day and night at his counter, to pay all expenses and to make a comfortable living. And the farmer, with not one half of the capital invested and about one half of that time at work, counts nothing made or gained, unless it be a surplus over and above all his expenses and comforts, and maintenance of his family.

Suppose we should devote to our farms the same study and application that the merchant or professional man does to his business, and then suppose we had but a few leading minds, public spirited citizens of our farming community, willing to assume responsibility to inaugurate new and good systems for our comfort and prosperity, and what could be made of the country around Richmond in ten years?

But this is a wide digression from the subject I am invited simply to open for your discussion. Then to the point.

I have a right to “take it for granted” that your corn is not only now up and growing, but has received its first working. If this be not so, you are behind in this most important work. If not worked, let me advise that you at once run near to your corn the important two-winged coulter, its long iron tooth in front, burrowing down deep and loosening underneath the corn to give the feeble roots a start, and the little shovel behind cleaning out and throwing to it just a particle of earth; then follow at once with your shovel cultivators, cleaning out the middles, then replant side and thin out; and if the corn does not grow it is not your fault. By or before this your Irish potatoes must be laid by; and with blooming peas, snaps, salsify, beets, cabbage, butter-beans, tomatoes, melons, &c., all worked out and jumping forward to maturity, you can, by or before the 1st day of June, with scythe in hand, step into the field of clover and orchard grass.

Cut one morning; the next day, evening, turn over; the third throw it into cocks; and if not that afternoon, then the next morning, when moist with the dew, house the crop.

My own idea is, that there is too much "curing" of this crop under the dry hot sun that parches and shatters it. The sooner to the barn the better, and I would even recommend that it be brought up and housed while green — with one layer of clover, salted and limed if you choose, and then a layer, alternately through the rick or heap, of sound wheat straw. The straw will absorb the moisture, preserve the clover and itself impregnated will just double your quantity of the very best of hay.

Then by the 10th of June, the eye of the farmer must be constantly directed to his chief crop, "wheat." Don't let it get too ripe (and shatter) before harvesting. The stiff, dough state is its proper condition for the reaper or cradle. Bind in small bundles, shock, cap well; glean the fields, and then your winter oats are upon you. It is but time to step from one harvest field into the other. In the former, the young clover is, of course, growing; leave enough stubble to afford it some protection.

But for the oat field, let me suggest that, where it is practicable, locate the shocks as far as possible out of the field, and in straight lines in the field. Then immediately start two or more single plows turning under the oat stubble, then sow down one bushel of peas to the acre, and drag it with your heavy iron harrow. This can be done before the month of June expires. By the last of September you may turn under, with your double Dixie plow and chain attached, a large crop of *well matured* peas. (For if matured they will have a decidedly better effect, and not sour and burn your land.) Then with an application of about fifty bushels of lime to the acre, you will be ready for the crop of wheat and its attendant, clover. If for the above purpose peas cannot be had, as second best, sow buckwheat in its stead. Do all this, transplant your celery plants, fight an unceasing war with all manner of weeds that spring up, and let not one of the noxious seed return to plague your house; haul out from your pen and compost all the manure you can make; and get all from the city you can, never permitting one single cart to return home empty, and you will land in the middle of July almost before you know it.

And then what are your chances for going to the Springs?

The wheat, and probably the oats, are to be threshed, and sent to market. The corn before this time is to be laid by, and in doing this, don't forget before the finishing touch is given to sow down that entire corn field in peas; cover them with your last work or afterwards with the cultivators as you prefer, and then you will have a fallow to return to the earth in the Fall, which will, to a great extent, supply it with that food or element that you have extracted in the cultivation of this most essential crop.

The subject is far from being completed, gentlemen, and these unpolished ideas I but advance to invite your better discussion.

[For the Southern Planter and Farmer.]

DOES VIRGINIA OWE THE STATE DEBT?

NO. 2.—REPLY TO NOTE BY THE EDITOR.

I thank the courteous Editor of the *Planter* for his "note" in reply to my communication of last month, as it enables me to finish the subject up, by an argument, which, if I had used it, in anticipation, in the last article, would have made that too long.

The "note by the Editor" says: "If we assert that the United States should assume our debt by reason of our conquest, we cannot withhold from that power the right to tax us to pay it. One certainly carries the other." Not "certainly," I reply, by any means; nor indeed, at all; as a very brief examination must prove. Any such tax would, in fact, be confiscation to that extent: against which, as a direct "punishment for assailing the supreme authority," it is sufficient to say, that conviction, according to prescribed constitutional requirement, is an indispensable prerequisite. But that conviction is now impossible owing to the precedent in President Davis' case, and the action of President Andrew Johnson—whose great services to the South in this very matter have never yet been sufficiently acknowledged. That precedent and Mr. Johnson's pardons, special or by general amnesty, can be successfully pleaded in bar of any such prosecution; whilst against it, as an indirect "punishment" in the shape of taxation on one particular section, the constitutional prohibition is express. Art. I, sec. 8, clause 9, says: "Duties, imports and excises shall be uniform throughout the United States." And Art. I, sec. 9, clause 4, says: "No capitation or other direct tax shall be laid unless in proportion to the census or enumeration herein before directed to be taken."

Equally illegal, therefore, as direct or indirect confiscation, any such "punishment" may be regarded as wholly impracticable under present forms. And so repugnant is such a proceeding to the fundamental ideas of the government and to the genius of the American people that there need be no fear of any attempt to amend (!) the constitution by the insertion of an obviously suicidal provision.

But if the duty to pay the debt ever did carry "the right to tax us to pay it," that right has lapsed long ago by reconstruction; and the effort to restore it now would be followed by appalling consequences whose contemplation would deter from the attempt.

"Nor can they"—our losses—"have any bearing whatever upon anterior obligations made by us in our corporate capacity, as we find daily that these losses have none on individuals who happen to have the wherewithal to pay." But we would remind the Editor that the cases are not parallel. To make them so we must suppose the individual creditor to have an equitable as well as a legal demand. If, to repeat what I said in my former article, he has robbed the debtor of the means of payment or aided another to do it, he cannot recover.

The "note by the Editor" is rather harsh towards those who take

my view when he speaks of the "shame" of "repudiation." This, begging his pardon, is begging the question. There can be no repudiation when there is no debt; nor shame in refusing to pay a demand which one does not owe. People do not blush over disputed accounts, nor make their "children poor indeed" when they prove there is nothing due.

But were it otherwise, we have cases in point where we have repudiated just demands and yet have managed to survive the "shame" and look the world in the eye. The State of Virginia at the beginning of the war did solemnly promise protection and maintenance to such of her citizens, officers of the army and navy of the United States, as should give up that service and come to the aid of their sovereign mother. During the war she borrowed money from her own citizens, on her own account, to uphold the government and to conduct hostilities; and she incurred the same sort of obligation in connection with other States of the Confederate Government. If we had the right to secede, as, under the then accepted interpretation of the constitution, few among us did then, or do now deny, these were sacred obligations. But the plea of State policy, grounded on compulsion, self-preservation or what you will, made the State turn her back upon her soldier sons, and repudiate her own and the Confederate debt. If State policy could justify such a course as *that*, with far less violence may it refuse to pay bonds held by citizens of the conquering States, and remit them in good conscience and sound law to the power which, in conquering, has bankrupted this State; and which, in detaching West Virginia, and chaining her to the consolidated Union, has in that way, acquired a fund worth not less than \$100,000,000, and therefore, more than sufficient to meet the obligation.

Let it not be thought that in thus "commending the ingredients of their poisoned chalice to their own lips," I am speaking with the vindictiveness of an "unreconstructed rebel." Not anger moves me, but an earnest effort to bring the principles of justice to bear upon the law of self-preservation. I must use hard terms to express hard facts; and when I learned from Bacon that "words are things," I presumed he did not mean playthings. True, I deplore, and ever shall, the results of the war. But I abide by them and am content to see our destiny worked out in the Union. Reading the present by the teachings of the Fathers, I think Republican Liberty is on the wane. Studying the history of the country from the beginning as well as I have been able, and watching for forty years the progress of events, I see—and it has been marked by eras—that as suffrage has expanded, public and private morals have decayed. And observing that what is called the education of the masses—and of the higher classes, for that matter, has not helped the business, I conclude, with the assurance of Herbert Spencer, that it is proved, "statistically proved," he says, that the notion that "good behavior is to be forthwith produced by lessons learnt out of school books" is a mere "superstition." All which makes me a Bourbon, an old fogey,

a fossil or whatever else the new lights may choose. But in one and the main thing, I am a Virginian, I hope devoted to the welfare of my State as the supreme civic duty and aspiration. Recognizing as a fact that the evils I see cannot be cured by any protest of mine, that the "spirit of the age" is as much at variance with the true doctrine as were the crimes and licentiousness of the Restoration with the ideas of Milton, like him, I would still bear up and steer right onward. Amid and against all these obstructions, I would make Virginia strong as the only present means to heal her maladies and make her great once more.

But she cannot be strong when we stand under this debt, as the Editor forcibly says we do, "like a man with manacles on every limb, and no smith to remove them." As a first condition she must be relieved. Precisely how this is to be done, I have not thought it my duty to point out. I make no claim to be the Moses who shall lead the people out of this bondage; though I feel the bonds. I fear that I have already risked the charge of presumption in saying what I have; and I would not have done it but for two reasons: First. I saw the State insulted by the most pretentious of Northern editors. Second. I have seen but very few willing to express opinions which I knew so large a proportion of my countrymen entertain; and I thought they would not object if I should attempt to "bell the cat."

One thing, however, I will add in conclusion. Relief, and in a practical form, will be found very speedily when it is known that Virginia denies the debt. Sooner or later, she will deny it, because she will find she cannot pay it. But until she does, it might be premature to state the mode in which relief should be offered or accepted. The question is not free from difficulties of detail, growing mainly out of the decision of the Court of Appeals. But these difficulties are by no means insurmountable.

The main point of that decision, as I understand it, is the requirement in the Constitution of the United States that no State shall pass any law impairing the obligation of contracts. And this clause the Court of Appeals construes to forbid the repeal of that part of the Funding Bill (or law) which authorized creditors upon the surrender of their bonds to receive others of two-thirds the amount with coupons attached, which should be receivable in State taxes.

Now the first question is, whether that clause applies to the State at all in its dealings with its creditors, and whether it is not properly restricted to its legislation upon its citizens. For as the universally accepted doctrine is, that the people alone is the supreme authority of the State, expressing its sovereign will in conventions; and that the Legislature possesses only such power as this supreme authority shall give it by such conventions, it follows that if any legislature shall assume to pass a law binding the will of the State for an indefinite time, it is guilty of an act beyond its just powers; and one which can be undone, if not by the courts, certainly by *the sovereign people in convention assembled*. And if it be true that the Legislature has no such power, then it follows that no court can confer it. I ques-

tion if this sort of argument has been addressed to the court. But if it has, and the decision has been against this view, I have no doubt that such decision is wrong, and should be reversed by a convention, if necessary.

The idea that a judiciary shall ruin a State by its decisions against it, is absurd, as giving the creature the power to destroy that creator by whose will alone the creature exists. This, at least, is the old State's rights doctrine, and shows in this instance the great value to property, and through that to civilization of this derided "abstraction." And further, it is the law, as I understand it, of England, where, though the sovereignty of the realm is represented by Parliament, yet notwithstanding its "omnipotence," one parliament cannot bind another, and has never pretended to such supremacy.

It is possible that in the exercise of a power rather than a right the courts of the United States might interfere to nullify such State action; though I doubt if they would. But if they should, there are still other remedies that may be efficiently employed.

Perhaps I cannot better close this article than by the following extract from a letter lately written from Bath county and published in the *Richmond Dispatch* of June 13: "Our county treasurer informs me that in self-defence he is compelled to sell the property of several of the citizens of this county (and, by the way, some of the best of them) for taxes. Corn has already been sold by the treasurer for twenty cents per bushel, and hay for one dollar and a half per ton, to pay taxes. Therefore, in the name of God, how are the people to live and pay the public debt of Virginia?"

June, 1877.

FRANK G. RUFFIN.

NOTE BY THE EDITOR.—Like old Capt. BYARS, who was notoriously hard-headed, "we are *not* convinced." Our esteemed friend, when he talks of "conquest," must not quote constitutional inhibitions. The law of might only operates there, and if we claim to be "conquered," it must be in that sense, and that alone, and the conqueror is generally accorded the right to do pretty much as he pleases. (He made France pay a very respectable sum once.) If, then, we say he should, by reason of our conquest, pay our debt, he has a right, and would doubtless rigorously exercise it, of taxing us *alone* to pay that debt. We think really our friend was unfortunate in taking such a position; it is so absolutely untenable.

The debt was made *before the war*, and for every dollar of the bonds Virginia issued she got value received. We believe no one denies that. It was not the fault of those who lent her their money that she chose to go to war, and to accept the contingencies that war involved. In each case it was a solemn corporate act, and because the issue was disastrous in one case, it is not seen by what possible reason she should be absolved from liability for the other.

If, to get the matter into manageable shape, it is necessary to call a Convention of the people, let it be done by all means. We shall be only too much delighted when we find any tangible, direct and definite effort made to solve the problem. Only don't let us for a moment think even of "denying" the debt; for that is only another name for repudiating it. WE OWE IT, and should provide for its payment to the best that's in us; we can't do more, and we will find none of our creditors grinding enough to demand more.

[For the Southern Planter and Farmer.]

NEW LAWS PROPOSED.

While the whole newspaper circulation of the State seems to be much interested in the man to fill the Governor's chair, there are other matters of far greater importance to the people of the State. The reformation of many evils affecting the body politic requires the Legislators to be men of advanced ideas and of strong determination of character, not subject to the different forms of influences surrounding them. The great mass of the people are not prosperous, and with the exception of the capitalist or professional character with large fees, the demand for reduction of expenses is a general one, and the Legislators of Virginia should follow the efforts of the Tennessee Legislature. As the Governorship and Legislature are honorable positions, and in the way of promotion to higher offices, they could afford to hold their respective places with less pay than clerical officers. The Governor's salary might be reduced to \$4,000 or even \$3,000, and the members of the Legislature to \$300 per term. No inducement should be held to any one holding these offices for pecuniary advantage. By this arrangement there would be candidates sufficient, and property holders would not be as much subject to the will of people who vote much and pay little to the support of the Government, as they now are. Macaulay was not far out of the way when he stated that "the American system of universal suffrage was like a ship under full sail and with little ballast."

The fees of all officers—like clerkships and sheriffs—should be reduced twenty per cent. and a thorough civil service reform carried out making fitness for office the basis of selection.

The office of magistrate and constable should be held during good behavior, and appointed by the county judge, who is better acquainted with the citizens generally than any other officer.

Their fees should be doubled, and the jurisdiction of the magistrate should be one hundred dollars in amount, and he should be paid for attending to *all* legal business. If any public officer should be of the best order for intelligence, fitness for office and inflexibility of character, he should be selected, and if the county judges made the appointment to hold during good behavior for life—the magistracy would be much more honored than it is under the present system. It becomes every neighborhood to insist on making the change, and to continue their efforts until the present system is abolished.

The County Judge and County Prosecutor should be appointed by the Governor, and hold office for at least five or ten years, and his salary should be at least \$2,000 per annum—the best read lawyer in the county, with ten years' experience, should he have recommendations for the position.

The Circuit Courts should require practitioners of fifteen years' experience, and Superior Courts, twenty years' experience—and both to be paid in proportion. A judge of the law, above the practition-

ers at the bar, would expedite business, and his decisions be seldom reversed.

These changes are small matters compared to the great reform demanded by the age—a limitation to the settlement of suits at law in all courts, to three terms. At the second term all witnesses should be bonded to appear at the third term of trial, and if confined to the bed by sickness, affidavit to be sent in his or her place, and the case settled. Every one cognizant of law matters, is aware of the flimsy pretexts for postponement of cases—generally of unimportant witnesses, and many of whom know nothing of the matter. The great expense of witnesses in going from month to month, without trial of the cases, is a great nuisance, and should be curtailed by legal statute. Of course the legal fraternity would offer numberless objections, because their fees would be considerably reduced. Under such a system parents would have some reason to believe that their estates would not be subject to endless legislation, and their heirs not less uncertain whether they inherit property or not.

A court of arbitration in cases not exceeding \$200 or \$300 is demanded, where one of the parties can force the other to arbitrate, and the decision to be without appeal to the court. Under this rule a person could defend his own case, and very often with much more regard to equity than is usually done, where legal ingenuity sanctions knavery.

The jury system of twelve men could be reduced to six men, as in Texas, and probably in other States; and time and money saved to all parties.

The laws regarding stealing in all its forms should be amended. The thief should be punished for his crime, and his punishment to continue till restoration of property is made, and the decision not to be set aside by pardon of Governor or Legislature. The past few years have exhibited the extraordinary instance of thirty millions of dollars stolen by the New York City officials and but a moiety of the money recovered. The times call for this law everywhere, in small and large matters. Some of the old laws of Lycurgus would not be out of place at the present day, and the punishment should be in proportion to the amount stolen. The old law of North Carolina, punishing horse thieves and peculators stealing a certain amount of money, by hanging, might put a stop to this kind of villainy at the present day.

In homestead and bankrupt cases the law should limit its application to 40 or 50 acres of land, as in Ohio, and not allow the whole country to be bought up by persons who can neither sell it to advantage nor cultivate it—human dogs in the manger. A large emigration of Northern people or Europeans cannot be expected where the land is thus held. A small farm, holding the \$2500, exempted by Federal and State laws, would be improved to support the owner—a large farm would not be likely to be highly improved.

While so much law-making is the order of the day, a law protecting the creditor, to some extent, would restore confidence and circulate money where it is now hoarded and paying no interest.

As so many important changes ought to be made in nearly all the offices of the State, a constitutional convention should be called and its time and expenses limited to 60 or 80 days, and the savings the first two years would pay the cost.

A new subject of taxation is coming to the front in many States, and the State of Virginia should not be backward in passing laws against the accumulation of real estate by religious corporations. All the countries of the old world are groaning under the evils of entail, and the wholesale gobbling up of property of dying people should be stopped. Dying men or women are always subject to undue influences, and, with the mind of a child, they may practically disinherit their offspring and donate their effects to religious institutions, which may prove of more injury than benefit to the community at large. When the people of Mexico elected Juarez to the Presidency, the income of the Government amounted to thirty millions of dollars, and that of the Catholic church to sixty millions of dollars, and the consequence was, the dis-establishment of the church and the sequestration of the property to prevent the continued revolutions in the past history of the Republic. This is a subject of the greatest evil in our own country. All denominations are vying with each other in the accumulation of property, which should be limited by statute. A church should not be allowed to hold property, and even the house of worship should pay its quota of taxes. If churches are to remain untaxed, there will be a large amount of capital invested to gratify pride and exclude the mass of people from public divine services. Trinity Church in New York City is reported to have cost five millions of dollars, and will probably seat 2500 people. Talmadge's Tabernacle cost \$100,000, and will seat 5,000 persons. Dr. Adams' (Presbyterian Church, N. Y.) cost \$800,000, and may seat 2500 people. Governor Dix, in his opposition to the tax on churches, called it a tax on God Almighty, but as one of the corporation of Trinity Church, he is pecuniarily interested, and it is reported that the rector of Trinity receives over \$100,000 annually. Why all church property in the United States, annually increasing millions of dollars, should go untaxed, and private property bear all the burdens of taxation, justice and equity cannot see it as the best thing in the world. If a religious society is conferring good upon the community, it has vitality to pay taxes on its house of worship, and other property it may hold. If it is producing no moral good in the community, taxation may help to remove it, as was doubtless the plan of the Founder, in making its ministers subject to civil authority.

In regard to the reforms proposed, and others which are likewise important, there may be objections raised; but the question is this, Cannot the burdens in the community be partially removed—and should they not be undertaken at once? Why the delay? If there is good in the proposed changes, the sooner made the better, and every one in favor of them should start in the matter. What is wanted is the attention of all citizens to this subject and to selecting candidates

for office who will carry out the wishes of their constituents. The welfare of the community is of more importance than the interests of the few office holders, and before the nominations are made it would be well to know what are their views on the many subjects to be brought before them as Legislators.

C. R. C.

Hanover Co., Va.

ABOUT LUCERNE.

An esteemed correspondent in Granville county, North Carolina, writes us as follows:

Can you give me any information about the cultivation of lucerne—especially as to the *best time of sowing the seed*. Can you not get an article for your paper from some reliable person who has tried it, giving *particulars*, kind of soil, manner of preparation, quantity of, and time of sowing the seed, after treatment, quantity of yield, value, &c. I have met with several farmers who are disposed to try it, but are deterred by want of just such information. It is astonishing, sir, how carelessly and ignorantly most farmers try experiments, even when brought to the point of trying them. Hence so many failures, and so little progress in the science of farming.

Our good friends, Messrs. ALLISON & ADDISON, seedsmen, of Richmond, furnish us what follows, in reply:

This plant does not endure a climate as severe as red clover, requiring greater heat and sunlight; but, in a latitude equally suited to both plants, it would, perhaps, be somewhat difficult to say which should have the preference. In some respects it is decidedly superior, as in being perennial, and consequently remaining long in the soil. The yield of lucerne is as abundant as red clover, and it is equally well relished by cattle, both green and dry. Its yield of green fodder continues later in the season than that of red clover.

The cultivation of lucerne is somewhat more difficult than that of red clover for the first year, requiring a soil thoroughly mellowed, and prepared by careful tillage; and the want of proper attention on this point has led to failures in the attempts to raise it in this country. It suffers and languishes in compact clay soils, and does not flourish in light soils lying over an impermeable subsoil, which prevents the water from running off. It will never succeed in thin soils. But in a permeable subsoil, consisting of loam, or sand, or gravel, its roots can penetrate to great depths, and imbibe their moisture and nutriment in layers of soil far below the average of other plants. In this respect it differs materially from clover.

A suitable subsoil is of the utmost consequence—a want of care and deep tillage, especially a neglect to break through and loosen up the hard-pan whenever it exists, will inevitably lead to failure with lucerne. But, when the soil is suitable, it will produce good and profitable crops for from five to ten years, and, of course it does not belong in the system of short rotations. Notwithstanding the large quantity of succulent and nutritious forage it produces, its effect is

to ameliorate and improve the soil rather than to exhaust it. This is explained by the fact that all leguminous, broad-leaved plants derive a large proportion of their nutriment from the atmosphere, and that a vast quantity of roots are left to decay in the soil when it is at last broken up, while the luxuriant foliage serves to shade the soil and thus increase its fertility. The best soil for lucerne is a rich, deep, sandy loam—the field should be well protected from sharp wintry blasts. The ground should be plowed to the beam, and where thorough work is to be done it should be subsoiled. It must be free from all excess of moisture, and should be either naturally rich or it should be made so by a liberal use of manure.

The best method of cultivating lucerne is to sow it in drills, at a distance of twelve inches apart—when the young plants are a few inches high they should be weeded carefully and the intervals kept clean with the hoe. This weeding and cleaning should be done several times during the season. The subsequent labor consists in keeping down the weeds and taking care that the soil is loose in the intervals. It may be sown in the Spring along with the grain crops, as clover is, but a large crop need not be expected the first year, and it will soon be choked out by weeds. The best time to sow the seed is from the middle to last of March. If drilled, twenty pounds of seed will be found sufficient for an acre; when sown broadcast it will require not less than thirty pounds.

Lucerne should be cut as soon as it begins to flower, or even earlier. If cut much earlier, it is apt to be too watery and less nutritious, and cures with greater difficulty; if later, it becomes coarse, and hard with woody fibre, and is less relished by cattle. It may be cut and fed green, and is an exceedingly valuable plant for soiling cattle; or it may be cut and cured and used like clover hay; but in either case it must be cut before blossoming. If the cultivation has been good and the soil is rich, four cuttings may be made each season.

Messrs. ALLISON & ADDISON inform us, in addition, that the best-posted farmer they know, in the matter of lucerne, is Dr. O. A. CRENSHAW, of Richmond. Will not the Doctor favor our readers with a paper on the subject?

[For the Southern Planter and Farmer.]

LEACHING THE SOIL.

I read with considerable interest the articles in your April and May numbers, signed by R. Ransom. In reference to his theories of leaching the soil, I am of the opinion that he is right in that matter; and in reference to the value of winter oats and peas, I know that he is right. By referring to the proceedings of our Farmers' Club, near Mulberry, Tenn., I find that at the regular meeting of June, 1871, after protracted discussion, a resolution was adopted recommending the cultivation of winter oats and pea fallow as the initiatory step in a system of improvement and profit, and to my certain knowledge there has been a steady increase in the cultivation of winter oats for several

years in our section of the State. In your next number I desire to give you some facts in reference to the practical working of the "Agricultural Society of Brunswick," of which I was a member, while it was in successful operation, up to the late civil convulsion. Steps have been taken recently to reorganize it, in connection with the State Society. I am glad to find the growing interest in our county towards your journal.

T. E. C.

Brunswick Co.

[For the Southern Planter and Farmer.]

IRISH POTATO CULTURE.

I have just read an article in the May number of the *Planter and Farmer*, on Irish potatoes and their culture, by Dr. C. Quarles. Until within the last three years I had followed the rules (or some of them at least) as laid down by Dr. Q. I have recently adopted a new mode of planting, which has succeeded better than my former plan. My former plan was to plow and harrow the ground well, lay off the rows three feet apart, put barn-yard manure all along in the rows after the potatoes were dropped, and then put on about two or three inches of earth. (I will mention just here that some prefer to plant the potatoes *whole*, but I have never been able to see any difference in the product of those that had been planted whole and those that had been cut). I now plow, harrow and lay off the rows just as before. Instead of putting manure in the rows and covering with earth, I simply drop the potatoes about ten inches apart, and then cover the whole patch over evenly with half-rotten straw, about eight or ten inches deep. I put no earth on them at all. I don't mean to say that they do *better* without any earth on them, but I think from what I have seen that they do equally as well without any. Planted in this way, they require no hoeing or plowing, nothing but pulling the weeds out occasionally. At gathering time I have only to rake the straw off and the potatoes can be picked up *clean and bright*.

My usual time for planting early potatoes is during the first week of April. I have tried a good many different varieties, such as the White Mercer, Peach Blow, Early Michigan, White Sprout, Buckeye and Early Rose. I believe the Early Rose is equal to any variety grown for general use. Last year I planted the Early Rose altogether, and they did remarkably well.

I found, soon after digging them, that they were rotting badly. At the suggestion of a friend I sprinkled them all over with air-slacked lime, which arrested the decay at once.

I noticed another thing year before last which seemed to favor my present mode of planting. I had that year two patches; one planted without straw, and the other covered over with straw as mentioned above. Where there was no straw put the Colorado beetle nearly destroyed the vines; whereas the other patch was comparatively uninjured.

C. H. KEMPER.

Fauquier Co., Va.

[For the Southern Planter and Farmer.]

VALUATION OF FERTILIZERS.

Having seen several articles under the above heading, may I be permitted to add a few remarks on the subject?

There are a few substances, as we know, that enter into the composition of all plants, and are indispensable to their growth; and these, in general, can only reach the plant through the soil; the absence of any one of these from the soil is fatal to the crop; therefore, they are equally important because equally indispensable, but practically we would value them according to their relative abundance. The farmer does not value oxide of iron as highly as he does phosphoric acid, because oxide of iron is very abundant, whereas phosphoric acid is frequently wanting in the soil. We give ammonia and phosphoric acid the greatest importance, and assign to potash the third place, because they are most frequently absent from soils, and have for that reason, when applied as fertilizers, been known to produce the most remarkable results; but on the ground that a soil can not produce a full crop unless every element of plant food is present, we must always consider that substance which is absent the most important to a given soil, and it will not yield to the farmer until this absent ingredient is supplied. As this is the fact, should a farmer allow the fluctuating market price to control him in its use? Certainly not. For nothing is more generous than a soil whose wants are well cared for. No other substance can supply the place of this absent one; and the farmer who gives his another food because it is cheap, will be deluded, and will see his money wasted. It is the highest duty of the intelligent farmer to study his soil and find out what it needs. The failure of some of our *best* fertilizers can be traced to the simple cause that the farmer has given his land just what it contained without supplying the missing element; the fault is not the fertilizer, because it did not contain what was absent from the soil. The merchant in his office cannot predict the needs of any particular farm, but, nevertheless, a good, honest fertilizer offered on the market for any and all lands should contain all the elements of plant food. The effectiveness of the manure of animals, is due to the fact that their manure contains the same ingredients as the crops on which they live.

From actual calculation the market values of some of the ingredients in fertilizers are as follows:

Nitrogen, about	. . . . .	24c.
Or, Ammonia, "	. . . . .	20c.
Soluble Phosphoric Acid, about,	. . . . .	14c.
Insoluble "	" "	8c.
Potash, "	" "	7c.

The farmer should not stint himself in supplying the substance which his soil needs, but he must be certain that he is giving it the

right thing. There are many thorough and exhaustive analyses of all crops; by consulting these, he can, with a thorough knowledge of his soil, know what he should purchase, and within a few pounds of the amount, for the particular crop he wishes to sow. In another article I would like to give some of the known methods by which we ascertain what is lacking in a soil.

ROGER.

[For the Southern Planter and Farmer.]

TO GEN. RANSOM.

Your estimation for fallowing ten acres, one man, two horses, four days, \$6, in your excellent article on "Recuperation of Exhausted Soils," is so much below the cost to most of us, that we suppose you must have made a mistake. Please explain through the next *Planter* how you make it so low. We find it impossible to hire a double team to do first class fallowing for less than \$2.50 per acre, and most hirers require the land-owner to find the horses even at this price. Is it much less than this if the farmer owns his team, counting the capital invested, cost of feeding, harness, wear and tear, &c. Give this your consideration, and you will oblige,

A JUNIOR FARMER.

REPLY TO THE ABOVE.

The plan suggested in article referred to was intended for the usual farms and plantations, and the costs entered were derived from the following calculation and considerations:

A plowman's hire is about \$10 a month. His rations are, as a rule, one and a half bushels of meal and fifteen pounds of bacon per month.

The daily hire will then be \$	.30
rations,	.10

Meal being 75 cts. a bushel and bacon 12 cts. a pound; daily cost of man, 40 cts.

The daily ration of forage for each horse is placed at one peck of corn and 15 pounds of hay or its equivalent. Corn 75 cts. a bushel; hay 75 cts. a hundred; daily ration for each horse, 30 cts.

We then have for hire of man,	\$.30
" " " " ration "	.10
Rations for two horses,	.60

Total daily expense,	\$1.00
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A most excellent team, plow and harness can be had for \$350, and I put a most liberal allowance for wear and tear, at 50 cts. a day, which is over fifty per cent. per annum upon the capital invested. Then \$1.50 a day is the full cost for fallowing, and a team, such as should be used, with a fair and honest plowman, will do the ten acres in four days.

R. RANSOM.

[For the Southern Planter and Farmer.]

IMPROVEMENT OF WORN-OUT LANDS.

Go in any direction from the city of Richmond, throughout the "Midland" and "Tidewater" country of Virginia, except in the river valleys, and you will see farms, formerly the seats of ease and comfort, in every state of sterility and dilapidation; the enclosures and buildings rolling down; orchards full of moss and dead branches; fields covered with broom sedge, poverty grass, briars and gulleys. Many of these places have been abandoned to a miserable tenant system and a bad class of tenants. On many others the owners reside, and have to live upon *their products*. In the section in which I reside, this is particularly the case. The lands are high, rolling and healthful; streams of living water abound of the purest and best; fruit trees flourish, especially the cherry, damson and apple, and Virginia blue grass and red top seem indigenous; but dilapidation has seized upon the landscape. How are these lands to be improved and support the owners? One advises a special tax upon old fields; this would be simple confiscation. Another recommends sowing grass seed; a third, rotation of crops. The last two very good in their places, but not applicable here. A fourth suggests sowing clover; it is very clear he knows nothing about such land. Some own these lands who have *neither money nor credit*; if so, they must combine some other pursuit with farming. If they are neither lawyer, doctor, merchant nor mechanic, they must go out to day labor and use the proceeds on the farm, and work at home when not so employed. Even in this extreme state, the man who owns land is better off in the country than the poorer class in town. The farm furnishes house rent and fuel, a pasture for a cow and pig, a range for poultry, a garden spot and usually some fruit, and, in a large majority of such cases, there is some lot or parcel from which enough can be made to furnish bread and forage to themselves and dependents. To this class, however, I have but little to say. They must gain their bread by the strictest economy and industry, and if they will save and apply all manure, gradually extending the area of fertility, their labors will lighten every year. If one has some means, the case is different; his prospects are bright in proportion to the sum he can use, and his pursuit will more surely furnish him the comforts of life than any other. Take the section or field which is to be improved; in June or July cut down all bushes and everything else on the field (I have seen a dense growth of young pines turned in), apply twenty-five bushels of lime per acre on the plowed surface; in August sow down one bushel of rye per acre, and cross harrow and roll well; if the land will produce anything, it will grow rye, and this will commence the system. Upon this put every sort and kind of manure that can be spared at any time after seeding, until it is a foot high. If forage is scarce, some of this rye may be cut for soiling the next Spring. If the land is absolutely needed for cultivation, the rye may be plowed in, and will furnish a better crop of late Irish

or sweet potatoes or corn than if it had not been sown. It would be much better, however, to plow under the whole crop in May or June, and along with the crop a bushel of black or coffee peas. The crop of peas from this sowing would probably be good as soon as ripe peas appear. Winter oats should be sowed upon the land, plowed in along with the peas as shallow and as roughly as possible, leaving the land in the rough state; the roller, in the Spring, will make an even surface for harvesting. I will here say that it is a good plan to pasture stock, especially hogs, on oats, peas or rye that are intended to be plowed in; it facilitates the work, benefits the stock, and thus pays part of the expense. If the season is good and the land not too poor, enough oats can be reaped from this crop to pay for the outlay. Cut all that are good, leaving the indifferent spots standing; pasture for a few days with stock, hogs especially, then sow one bushel of black peas or half a bushel of buckwheat per acre; turn in all stubble lightly, roll and leave it. If peas are sown, they would furnish more nitrogen. If buckwheat, it will furnish a splendid Summer pasture for bees—a good Winter run for poultry, besides exerting a peculiar cleansing influence on the land. Both crops will mulch and protect the oat crop during Summer and Winter, and give their whole bulk to the land as manure. It is needless to say the oats plowed in furnish ample seed. The Winter oat, while inferior in some respects to the Spring, is a Godsend to our State. It seems to be as much at home here as the Peach Blow potato, the Wilson strawberry or Concord grape, and our people should at once give it a cordial welcome. Upon it hinges the whole system above. It will pay all expenses of improvement at once. In January, 1876, the writer sowed Winter oats on a poor, sandy field; the crop was an indifferent one. In July following, the milch cows were turned in a few days, and the land was then plowed, turning in all the oats; after the plowing, black peas were sown—one bushel per acre—and harrowed in; the land was packed by a rain which followed the plowing, and the harrow did not cover the peas thoroughly, and a slight dry spell injured the stand and growth. I am now confident they should have been plowed in. The peas and oats grew along together; frost killed the former, and there is now a fair show for a reasonable crop.

The oats germinated in August, and if retarded in growth, which I did not perceive, were not injured in vitality by the growing vines, and after the peas were killed by frost, they furnished protection and a "top-dressing" to the oats during Winter. Wherever the *stand* and growth of the peas were best, the oats are now best. Upon rye, buckwheat and peas, as "green fallows," along with Winter oats to pay the "bill," we can safely rely for the improvement of our lands that contain a reasonable amount of sand. Clay lands, while they contain more valuable constituents, do not grow fallowed crops so readily when poor, and require a different treatment.

The intelligent farmer will see the change in his system which a

large cultivation of oats will involve. It will induce him to use them as food for all his domestic animals, hogs and poultry included—all thrive if fed on them alone. It will enable him to make his food cheaper—introduce a means of preventing “leaching of the soil,” besides the positive benefit of the green fallow.

Henrico Co., Va.

A. H. PERKINS, M. D.

CONNECTICUT (CIGAR) TOBACCO.

The following very readable article, from the pen of Mr. W. H. WHITE, of Westborough, Massachusetts, we find in the *Rural New Yorker*, of 26th May last. Mr. WHITE is the chief authority, in this country, in connection with this type of tobacco, as Major RAGLAND is concerning “fine yellow.” The last paragraph will prove of peculiar interest to our people. The pressure is on them to still more diversify their tobacco production, and we know no point so promising as in the direction of cigar tobacco :

From the earliest settlement of the colony, tobacco seems to have been grown to a greater or less extent. In the earlier stages of its culture it was grown merely for the personal use of the grower and his family, for—be it said with all charity—the male portion of the family were not, in all instances, the only consumers of the “weed,” for we find that the gentle sex also were often addicted to the solacing influences of the fumes of burnt tobacco drawn through a clay pipe, when such could be afforded ; while in its absence, a piece of corn cob was used with a stem extemporized from a stick of elder, or a quill from the universal quill wheel. After awhile it was grown in a large way, generally with the object of selling the surplus, for which there was little demand even at a low price. Where the crop was not sold, much, or all of it was made into cigars, very frequently by the farmer’s wife, daughter or other female help, during the long, cold winters, or at any other season of leisure. This tobacco, be it remembered, was not “cured” according to present ideas, but usually made up the season following its growth, when the curing process should have been in progress. The cigars first made were a conglomeration of paste and tobacco, and were of the poorest sort, compared with those of to-day. The manufacturer, however, had then this advantage, that there was no revenue tax on either raw material or manufactured article, and he was glad to sell them at a shilling a box holding a hundred. Millions of cheap, inferior cigars resulted from this crude method of manufacture. Neither assorting, steading nor packing, as now performed, was in those days attempted, the custom being to toss them into barrels, old tea chests, or any other convenient receptacle, and send them on their travels. The raw materials were often sold as low, or lower, than two dollars per hundred pounds to speculators, and, at that small price, these sometimes found that they had an “elephant” on their hands.

In the year 1801 a plug-tobacco manufactory was started in the town of East Windsor in the hope of thereby furnishing a home market for a much larger production, and that in time its owners

would become successful rivals of the tobacco manufacturers of Virginia. But this enterprise proved a failure, although experienced and skilled laborers were imported and employed. Yet it was destined to be productive of good to the tobacco interests of the section, as it resulted in the improvement and more extended manufacture of cigars, for which, in later years, Warehouse Point and Suffield became so noted.

Some thirty or forty years ago, a Mr. John Moody, who frequently dealt largely in Connecticut tobacco and cigars, conceived the idea of using Connecticut tobacco for wrappers, and Havana tobacco for fillers. Mr. Moody, at a certain time, found himself possessed of several tons of the Connecticut tobacco which he had bought of producers at two cents per pound. Not knowing how to get the "elephant" off his hands, he went to New York and there found an old acquaintance, a cigar manufacturer, who had almost an unlimited quantity of Havana tobacco on hand, without suitable wrappers. Mr. Moody proposed that this acquaintance should use the Connecticut leaf for the wrappers, by which means he could work up his Havana tobacco. The idea was adopted, and Mr. Moody unloaded his elephant at eight cents per pound, thus making a new opening for Connecticut leaf, which has since grown to be the most noted tobacco of the Continent as fine wrapper leaf, and is in demand, the world over, for the purpose.

The culture of tobacco, for many years up to 1872, was one of uninterrupted success, many agricultural towns in the Connecticut River Valley by this means increasing their wealth very largely, often doubling it, and more, in the course of a decade of years. The late civil war cut off the production in Virginia and some of the other tobacco-producing States. This, by causing a large advance in prices, stimulated to a greatly increased production. Very much of it, however, was grown by inexperienced labor, and on soil not particularly adapted to the production of the finest leaf and best quality. This, together with the imposition of a Government tax and the restoration of its growth in other tobacco-producing States, acting with other causes, has produced a depression of the tobacco interest in Connecticut.

On looking over this subject, and considering it in all its bearings, the question arises: How can the prestige of the Connecticut leaf tobacco be restored and sustained? There can be but one answer to this question, all important to many producers, and that is: "Unless the crop we grow commands our best attention and maintains a high standard of excellence in quality, we are by no means sure of a *paying* return for the labor expended." Fine wrapper leaf requires a peculiar soil and careful as well as thorough culture in order to be of *extra* quality. The soil for the *best* product does not include every acre on every farm throughout the whole State; it is only the choice, peculiar soils that grow the finest leaf. It would seem from statistics and information gleaned from many quarters that the production of low grade tobacco, beyond what can be possibly

avoided, is, and will be, a losing or unprofitable business. The people of Connecticut cannot compete with others in producing shipping tobacco, and none of low grade must be produced if it can possibly be avoided. Germany has been a large customer for tobacco from the United States. From 1872 she has also obtained considerable supplies from British India at prices ranging from 3 1-10 cents, to 3 1/4 cents per pound.

For a great number of years Virginia stood at the head of the tobacco-producing States for certain qualities, and this prestige she still maintains. Not content with this measure of success, however, she has begun to think of adding cigar tobacco to her present productions. Should the enterprise be entered upon, Connecticut leaf will find a formidable rival to contend with. Favored with a more congenial climate and having a soil some portions of which are as well adapted to this kind of tobacco as the best in Connecticut, crops may be produced there, as successfully, if not more so than in the Connecticut Valley. The greatest drawback against her in the competition lies in her lack of skilled and careful laborers. In Connecticut the farmer, himself, manages and performs a large part of the work on the crop, or, at any rate, it is done under his immediate supervision, whereas in Virginia, it is left in a great measure to laborers who have no particular interest in the crop beyond receiving their wages, and as their judgment and executive ability are often at fault, results must be less perfect than is the case where intelligent, interested labor is employed.

[For the Southern Planter and Farmer.]

VIRGINIA AND MARYLAND GRAPE GROWERS' ASSOCIATION.

In the May number of the *American Farmer* I published a letter on the grape and wine question, in which I recommended the organization of a Virginia and Maryland Grape Growers' Association—the main object of which would be to operate against the obstacles in the way of establishing a sure and ready market for our wine. In consequence of that proposition I am asked by several grape growers to take the lead in the matter by calling a meeting of the grape growers of Virginia and Maryland, to be held during the sixteenth session of the American Pomological Society and the grand exhibition of the Maryland Horticultural Society at Baltimore, September 12th and 13th, 1877.

Although I consider it desirable to see a man of more influence undertake the task, I concluded, in consideration of the brevity of time, to answer the request made of me, by inviting all interested in the grape and wine question in the State of Virginia and Maryland to meet at Baltimore, on Thursday, September 13th, for the purpose of discussing the question of the propriety of organizing a Virginia and Maryland Grape Growers' Association, and eventually organizing the same. The hour of meeting and the locality in which

the meeting will be held, will be published in the August number of the *American Farmer* and the *Southern Planter and Farmer*.

The great importance of the matter justifies the expectation that a large proportion of the grape growers of the two States will be present at the meeting. All are welcome, no matter if they are pro or contra Concord; if they favor pure wine, or if they like it sugared or gallized.

Respectfully,

LOUIS OTT.

Castle Hill Vineyards, Greenfield, Nelson Co., Va.

[For the Southern Planter and Farmer.]

COMPOSTING THE SOIL.

In the May number of the *Planter and Farmer*, a correspondent referring to the entertaining and instructive articles in your December, January and February numbers by Profs. Johnson and Lawes, among other things, says: "From my long practice and continued observation, connected with some reading, I am of opinion that soil exhaustion, under continuous cultivation, may be best prevented by rendering the great amount of mineral matter and nitrogen now in the soil in an inert condition, active or soluble." &c., &c.; and then goes on to give certain tables showing the amount of minerals in the soil, at the depth of half a foot, and the number of years the same soil would continue to produce certain crops, if these mineral ingredients were rendered soluble. And then goes on to suggest that this may be done, to a great extent, without sending so much money abroad, by composting the soil with cotton seed, stable manure, lime or marl: that this mixture generates a heat in the heap, which seems to materially change the soil or clay used, rendering it much more friable. I agree with your correspondent, that the question of rendering the inert valuable ingredients in the soil and subsoil, is one of the most important, if not the most important now before the agriculturist; and that if Profs. Lawes and Johnson will turn their attention to this matter of composting the soil, we should see more rapid and practical results from scientific farming. This is exactly what we would all like to see.

GEO. C. PATTERSON.

Middlebrook, Md.

[For the Southern Planter and Farmer.]

RAIL HAULING.

Having occasion to get some red-oak rails in the spring or summer, it occurred to me that farmers must haul a great amount of unnecessary weight when they move new rails with the bark on, and to test the matter, I selected three rails, of medium size, which were split from a log some 20 inches in diameter; I removed the bark and weighed it separately, and found the bark to average 10 lbs. to each rail. From this it appears that for each *one thousand* new rails hauled, with the bark on, the farmer hauls 10,000 lbs. of useless weight.

King George Co., Va.

Stock Department.

CONDUCTED BY DR. M. G. ELLZEY, AGRICULTURAL AND MECHANICAL COLLEGE, BLACKSBURG, VIRGINIA.

WELDON STOCK FARM—MAJOR BENTLEY'S WALSHINGHAM SOUTHDOWNS.

We shall resist all temptation to enlarge upon a theme always pleasant to us, the success of a friend, and lay briefly before our readers the stock notes taken yesterday at the farm of Major W. W. Bentley, on Back creek, near Martin's station, Pulaski county, Va. Major Bentley, like most of us, came home penniless out of the war, to find only the surface of the land left to him, sadly cumbered with every vile species of wild growth. By dint of perseverance and pluck, all this has been transformed, and Weldon is to-day one of the best, cleanest, best-fenced, best-gated, best-ditched, best-manured, best-farmed farms in that celebrated county. The stock on the farm is of the very best breeding and individual excellence.

THE SHORTHORNS.

At the head of the herd is Illustrious Airdrie; his dam Illustrious 4th, his sire Airdrie 3d—very superior animals, bred by the celebrated Abram Renick. This is a red bull, now in his three-year-old form, very much like his sire—confessedly one of the most useful bulls to Renick's cattle. He has, as all good cattle have, a mellow hide and good coat of hair, so that in what we technically call the "touch" he excels. He is as good, perhaps the best, animal we can recall to mind in Virginia in the crops; his legs are short and his outlines evenly finished at all points. We first notice two Josephine cows, very pretty animals, of medium size and red color, each flush in milk and having just weaned a bull calf by Illustrious Airdrie. This Josephine family, as all shorthorn people know, trace by maternal descent to imported Josephine by Norfolk, and these of Major Bentley's are nicely topped. Mr. Renick, some while ago, used Josephine bulls, and they are to be found in his Rose of Sharon pedigrees. These cows are called Lady Josephine and Wildair, and they have each two bull calves—one just weaned, and one yearling—all by Illustrious Airdrie. Here is a good chance for any person needing a good Shorthorn bull at a moderate cost, which will prove as useful to most people as any held at fancy figures. Of the young Mary family there are Joanna, Japonica, and Jannet. We have seen no family of cattle possessing a more perfect finish in all their points than these same young Marys. We regard them, in this point, as superior to the widely-celebrated Rose of Sharons. Japonica is the beautiful heifer whose por-

trait we used to embellish a former number of this journal. With another year of development she has lost nothing of the wonderful beauty which has been so much admired. These three cows, Joanna, Japonica, and Jannet, are red in color and nicely bred. Joanna is by the great Muscatoon, so renowned in Kentucky, and traces in the maternal line to one of the best descendants of the imported young Mary, the founder of the family, Hannah Moore, by Goldfinder. No cow, perhaps, has more prize-winning descendants than this one. Japonica is out of Joanna by Sayers' Loudoun Duke, a Renick-bred Rose of Sharon bull—a distinguished rival of the celebrated Joe Johnston. We call to mind a bull out of a young Mary cow by this same Loudoun Duke, shown at Richmond last fall and took first in his class—an extraordinary good one. This is not a bad way to breed them. The wonderful flesh-carrying capacity of the Rose of Sharon united to the beautiful and elaborate finish of the young Mary cow, must produce results above the average, if the matter is judiciously managed. We should like to see Raleigh, of the Virginia Agricultural College, united to Japonica: that would be a good calf. While we were in the field Joanna dropped a nice red bull calf by Illustrious Airdrie. There is a good enough bull for anybody. Of the Illustrious family of Renick's breeding Major Bentley has two cows, Illustrious 4th and 5th, and out of the fifth a calf (red and white) by Joe Johnston. Here again is sound breeding. Illustrious 4th and 5th came from Mr. Renick, and so, as everybody knows, did Joe Johnston, and in uniting two of the best bred strains of this great breeder just from his hands, we cannot fail to do well. Illustrious 4th and 5th are roan cows, not of the largest size, but exceptionally fine in quality even for animals so well and fashionably bred. Major Bentley has a two-year old roan bull out of Illustrious 4th by 4th Duke of Geneva, so long at the head of Renick's herd. Now who wants any better bull than that to go anywhere? Major Bentley has a number of bulls exceptionally well and carefully bred and of much individual excellence, and they may be had at very low prices to suit the times and bring them even within reach of the farmer for grading purposes. This is a very select herd, and it is kept in the best breeding condition—neither too fat nor too lean—and they all exhibit high vigor and perfect soundness. If any of our readers wants a Shorthorn bull, we advise him to price these animals before he buys one.

THE WALSLINGHAM SOUTHDOWNS.

It would compensate a lover of the science of breeding for a long jaunt in the saddle to look at these splendid sheep. Among them are ewes from the Centennial prize pen at Philadelphia, and also the Centennial prize buck. It may be taken for granted that, in the opinion of the best judges, these animals are equal to the best Walsingham has

produced. They are larger bodied and shorter legged than any Southdowns we have seen; they are more rounded out in the rib, fuller in the breast, and deeper in the heart place than other sheep. Knowing something of the physiological connection between perfect respiration and perfect digestion and the perfect assimilation of food, we should adjudge the Walsingham Southdown the most economical machine yet produced for the conversion of grass and grain into mutton and wool. We can by no means agree with those who think that the increased lung capacity, which is the main alteration in the forward part of the sheep produced by Walsingham, has made the sheep heavy before at the expense of value to the butcher. There is no more extra bone than is implied in the greater length and arch of the forward ribs. Certainly beauty of form and utility rarely diverge widely from each other. It is a matter of record that Walsingham's rams have a reputation for prepotency and capacity to improve the flocks in which they are used enjoyed by the sheep of no other breeder, and it is not disputed in any quarter that they are in greater request and fetch greater prices in consequence of it. We were very glad to see these sheep with the wool off, they having just been sheared. Besides these ewes and buck from the prize pen, Major Bentley has other imported Walsingham ewes, and some also of Web's breeding—altogether a very beautiful flock. The Major cannot yet dispose of ewes, but has for sale several buck lambs from the Prize Pen ewes and several from the others, both Walsingham and Web, and the prices are very reasonable.

We saw a lot of grade lambs got by the Walsingham buck, and they were as uniform and beautiful a lot of lambs as we ever saw, and we took pains to inquire fully into the character of the ewes. They were a fair lot of common sheep, by no means uniform in character. We contrasted with them a lot of grades by the imported prize Oxfordshiredown buck from a lot of ewes more uniform and of higher character. Among these were some superb lambs, but they could not be said to be uniform.

We have reached our limits and must defer, for the present, our remarks upon the Oxfordshiredown sheep, which we propose to treat of in our next at some length, as we regard them the best of sheep for mutton and wool combined.

THE DAIRY IN VIRGINIA.

In a former number we endeavored to show that in various portions of Virginia no branch of rural industry holds out better prospects of profit than the dairy, worked upon a plan suited to the situation and available market for the product. One of the prominent advantages of this system is that it may be made to produce cash returns weekly, or even daily, throughout the year—an advantage which every business

man will appreciate. Promptly paid labor is always more controllable and more efficient than that kept in long arrearage for wages due. Less labor is required in proportion to the returns than in the management of any of the so-called money crops. The product, in any case, is a highly condensed one, and the expenses of marketing, even at distant points, not great compared with other staple products. The amount of skill and attention and cleanliness necessary to obtain the best results is great, but the work is not nearly so laborious or exacting as is the case with either sugar, cotton, rice, or tobacco. The capital invested in stock and fixtures need not be great. The average cost of the best native cows need not exceed \$30 per head, and there is no breed of cattle superior to selected natives for the dairy; but they must be selected, and selected for dairy qualities—three things being considered: the quantity of the milk, its quality, and the continuance of full quantity up to within a few weeks of calving. Not less important than even these three cardinal points is the disposition of the cow. A ferocious, formidable, evil-disposed beast can scarcely be handled profitably. The dairy cow should suffer herself to be easily, quietly, quickly milked, yielding the last drop from the udder without difficulty.

Few dairymen can keep thorough bred cows of any breed up to the standard of that breed, and make them at the same time profitable in the dairy; whereas to buy the best thorough-bred heifers from breeders to replace the old cows for dairy use can not be at all thought of. In grading native cows towards thorough-bred races, and keeping the best heifers, lies the best prospect of success. Let not any man suppose that every grade by a Jersey bull will be a better butter cow than its native mother. It will be very apt to be so; but that it will inevitably be so is not the fact; nor that the calf of a scrub cow by an Ayrshire bull will give more milk than its dam. This may, and very frequently will be, the case—by no means always. Nor is every Ayrshire cow a better milker than any scrub, or even by any means certainly a good milker; yet among one hundred Ayrshires selected at random there will probably be three times as many of the highest excellence as among an equal number of natives. The enthusiasm of breeders for favorite breeds leads to their believing, and causing to be believed, that the case is otherwise. Enthusiasm is quickly caught by infection; even the shrewd, phlegmatic farmer finds himself carried away by exaggerated ideas of the perfections of pure blood, which, failing to be realized in practice, leads to a reaction of opinion wholly unfavorable to the morals of the breeder and the utility of his breed.

What the dairymen especially should know and act upon is this: that he must know exactly the peculiarities of each individual cow, and should not continue to keep one of any age or breed which is plainly not paying her way. He should have a standard yield, to which every cow

must come up, and when she fails to do so, send her peremptorily to the butcher. It is by no means sufficient to know that the average yield of the whole number is satisfactory; for unless the point has been watched, it will surely be found that one third or one-fourth of them are eating their heads off under cover of the exceptional yields of one-third or one-fourth which are the best. The remainder being medium to good, the general average will be fair; but how much labor and feed would be saved by sending the worthless one-third to the butcher, or how much better will be the general average if they are replaced by an equal number equal to the best. If a record should be kept how many days in the year each inferior cow falls below the general average, and each superior one surpasses it, the difference between the two extremes would prove very surprising, if the point had not been previously attended to. Irregularity of yield, from day to day and week to week, is characteristic of all cows to a much greater extent than would be supposed by those who have not examined the matter, and often for one or two weeks during the year a cow may very greatly exceed her own average; or, on the contrary, some weeks fall very far below it. Exceptionally great yields for one week or one month cannot be held to establish the excellence of the cow. Even the best and most phenomenal cows vary in an extraordinary way when the record of the yield is kept by weeks, even when the kind and quantity of food is constant, and there are no great fluctuations in the weather to account for it. The cause is indeed difficult to discover. If we direct the attention of dairymen more strongly by these remarks to keeping exact record of the character and profitability of each and every cow they milk, we shall succeed in what we aim at. Let no dead-heads pull through on the general average. If you are not willing to attend thus closely to every detail, give up the business and find an occupation by which you can live and not work. There are said to be such pursuits, and men certainly do manage to live without visible means of support. A man of lazy habits is wholly unfit for the business of dairying, and there must be no slovenly drones employed and kept about the establishment. All help should be hired by the month and paid off promptly at the end of each and every month. A cash balance should be kept on hand, so that if anything is needed to run the establishment smoothly, economically, and well, it may be bought and paid for out of hand. A cash purchaser can get an average discount of fifteen per cent. from catalogue prices on all he buys. The prompt receipts from the dairy enable the dairyman to avail himself fully of all the manifold business advantages that favor the prompt man who enters into no engagements beyond his ability to meet. It is this sort of business, a moiety of which might be introduced with telling effect among the farming population of Old Virginia, who as a rule are totally unacquainted with that philosopher's stone, "pay as you go."

Among all the products of the earth none gives to milk and butter, when fed to the cow, such superior quality as the blue grass—not the June grass, sometimes erroneously called Kentucky blue grass—more familiarly known in every section of the country as green-sward; not that, excellent as it undoubtedly is, but the blue grass proper, the "*Poa compressa*" of the botanist—the flat-stalked, low, dark blue, rather insignificant looking grass which abounds in all the pastures of Piedmont Virginia, in Southwest Virginia known and miscalled "wire grass." It is that which gives to dairy products and meat, especially mutton, an excellence which cannot be otherwise imitated or approached.

THE SHORTHORN CATTLE.

Notwithstanding it is a fact clearly established that the chief characteristic of the Shorthorns is early maturity and aptitude to fatten at any age, yet we have heard a man claim that the ground of his preference for the native or so-called scrub sort of cattle was that he could get them fat at an early age, which he could not do with the Shorthorn grades. As this man was one of those who has made a fortune out of cattle, we thought it worth while to examine into his career for the purpose of spying out the cause of the mistake he was making, and how it was he had prospered in spite of it, and immediately we found that the source of his profits was in dealing in cattle as merchandise, and not in handling them as a grazier or feeder. Of course it requires no Solomon to understand that a merchant may make a fortune out of a product which has ruined the manufacturer. This gentleman had his customers in the beef markets, and they were those who did not buy first-class beef. He was a gifted man, and understood quickly and thoroughly the wants of those he dealt with. He knew each man's peculiarity, and he knew how to profit by his observations. If he had the meanest scalawag on the market, he knew the very man who wanted that scalawag, and the man was found and the scalawag sold with a promptness and at a price perfectly astonishing. Our friend was also a good buyer; he got cattle lower than anybody else could get them, and got them often cheaper than anybody else would have. There is perhaps no better judge of the present weight and future outcome of a scrub in America. Thus knowing the market perfectly, and being a perfect judge of his merchandise, he made money as a merchant; nay, more, even as a grazier he made money out of the same sort by virtue of his wonderful judgment and skill as a buyer and salesman. He got them lower and sold them higher than anybody else could, and the day he got them ready for sale he started them to market. Selling himself, he escaped the enormous middle profit other men had to pay.

There is not a fact developed in this gentleman's career which goes to

show that the ordinary farmer can handle scrub cattle at a profit; yet his statements have often been quoted as the weighty opinions of a successful cattle man going to show that "there is more money in scrubs than in improved cattle." Certainly a reason given for a fact which is not a fact is likely to be an extraordinary reason; and in this case we have the reason for the greater profitableness of scrubs, that they mature earlier and fatten more readily when young than Shorthorn grades.

At this point we offer a letter from our friend, George Chrisman, Esq., known as a practical farmer and successful handler of cattle in the Valley of Virginia. We hope others will follow suit, and if there are any facts favorable to the natives, let us have them too. Mr. Chrisman says:

"Out of the wreck of the war I saved three Durham calves of the spring of 1865. Cattle were very scarce in this country, and we graziers had to buy them of any age we could get. In the Fall of 1865 I bought up a lot of the best native yearlings I could find and turned them in with the Shorthorn calves. They were never separated, but wintered and summered together in the same lots and received identical treatment in every particular, being fed on straw, fodder, and hay together in Winter, and grazed together in Summer, until December, 1867. They were fed a little short corn from that time until 1st of January, 1868, when they were sold—the Shorthorns at 7 cents gross, the natives at 6 cents. The Shorthorns weighed 1285 pounds, the natives 1100; the Shorthorns brought \$39.95 per head, the natives \$66; difference in favor of Shorthorns, \$23.95 per head and one year's keep. In 1873 I had four Shorthorn steers of my own raising, which had been wintered only on straw and fodder and came out of the winter very thin, and weighed only 700 pounds at two years old. I had but little grass and sent the cattle off to a hocking roam ten miles off on the mountain. I brought them home on the 19th of September and weighed them off good grass the morning of the 20th, and they averaged 1000 pounds. I grazed them until the 16th of October, when I bought a lot of very superior natives, and weighed them off the road—a cold, rainy day and the cattle very empty; they averaged 1000 pounds. I turned these natives with the four Durhams and grazed them together until November 20th, when I commenced feeding a little corn, gradually increasing the quantity until Christmas; from that time they had all the corn they would eat, out in an open meadow, with hay and fodder, until April 8th, 1874, when they were turned on grass and fed a peck of crushed corn until May 18th, when they were sold. The Durhams weighed 1400 pounds, the natives 1200. In this instance the Durhams gained 400 pounds in eight months, the natives 200 pounds in seven months, on the same keep precisely. The Durhams were weighed very full, and the natives very empty, in the Fall, giving the natives fully 50 pounds advantage at that weighing. The buyer valued the Durhams at \$1 per hundred more than the natives in this purchase. These four Durhams gained within the year 700 pounds, with four months and eight days of the time spent upon a hocking in the mountain. I am confident, from subsequent experience in grazing Shorthorns on my farm, that I could have put 900 pounds on these four cattle if I had kept them at home and grazed them as I usually do my cattle.

GEO. CHRISMAN."

We do not propose to argue the point of the superiority of the Shorthorns to the native cattle; that much is settled and will not be questioned by any person in a position to hold an intelligent opinion on the subject. We desire to show how much superior they are, and to that end we ask for the experience of all who have any facts in their possession. One thing that stands in the way of handling these cattle is the fact that they are so scarce and the competition for them so great among leading graziers, that the prices of the stock cattle have been too high and the margin for profitable grazing thereby narrowed. Yet this state of things is highly encouraging to the small farmer who raises a few calves by a thorough-bred bull. There is sure to be an active competition for the possession of his two-year olds or yearlings, and he may, without troubling himself to look for a purchaser, sell them at home at very satisfactory prices. Yet strange to tell, the demand for thorough-bred bulls by this class of farmers is very limited, though they are ready enough to take advantage of the possession of one by a good-natured neighbor. Nor is the excuse for this that the breeders put their bulls at prices beyond the means of the small farmer. Good bulls, on the contrary, are on the market at prices hardly above what they would be worth as steers at the same age. It is our opinion that breeders ought to castrate largely more than they do, if they would consult their own interest. After a while possibly breeders may find this out and put it into practice. In the mean time let the more intelligent small farmers keep ahead of their unenterprising brothers, and continue to use only Shorthorn bulls, if they are in a situation to handle that class of stock properly. If their lands are thin and their system bad, and their crops meagre, however, let them not depart from the natives, and so blunder on blindly in the dark.

BELMONT STOCK FARM.

We have received from S. W. Ficklin & Son their catalogue, just issued. We had also recently the pleasure of a flying visit to Belmont, and looked hurriedly over the farm. These gentlemen are breeding thorough-bred and trotting horses, and also the Percherons and Clydesdales; Shorthorn cattle and Berkshire and Chester white swine, and they have some very superior animals of each sort.

Florist is a thorough-bred of extraordinary muscular development and very quiet and good-tempered in disposition, and has proven himself a fine stock-getter. He is by imported Australian, with a good pedigree on his dam's side. Florist is ten years old—in his prime—and for getting useful stock we know no thorough-bred we should prefer.

Among the brood mares are Dewdrop by imported Australian, first dam by imported Yorkshire, second by American Eclipse, third by William of Transport, fourth by Orphan, fifth by imported Buzzard, sixth

by Silver Tail; also a chestnut filly out of Dewdrop by Florist, foaled in 1876—very promising.

First among trotting stallions is old Black Hawk—now 27 years old, yet full of courage and vigor—by Hill's old Black Hawk out of a Hambletonian mare. It is our opinion, however it may suit the purposes of some to write them down, that no more useful, stylish, long-lived family of horses than the Black Hawk has ever been bred in America. Good in all their crosses, good for every purpose, docile though spirited and high strung, and therefore safe and pleasant to handle. We rode the other day at Mr. Ficklin's a gray gelding by Granite out of a Black Hawk mare, as good a beast, either for saddle or harness, as any man need care to own. This is not the first good horse we have seen from the union of descendants of old Black Hawk and imported Trustee. Messrs. Ficklin have a number of Black Hawk fillies for sale. They have also Granite, Jr., got by Granite, dam Blanche by Black Hawk, a dark, iron-gray colt, four years old, $15\frac{3}{4}$ hands high, we should think by the eye, and to our eye a horse of great promise to produce valuable stock for the carriage, road, or track, under the saddle or in harness.

Of Percherons we noticed No. 1 imported Bienvenu. This horse differs from the typical form of the Percheron, being low and long-bodied, with a long, level croup, and tail set on high up, nearly level with the back; neck longer and lighter than the average Percheron, and head set on differently; shoulders also more sloping; legs less thick and heavily haired; cannon bones flatter and tendons standing off from the bone. The traces of the racing blood are too evident in this horse to be mistaken. Bienvenu has weighed 1700 pounds, but weighs less now.

No. 2. The Colonel.—This gives us an opportunity to say that the cut of this horse on the outside of Messrs. Ficklin's catalogue, and recently published in the PLANTER, does the animal gross injustice; for, we repeat what we have elsewhere stated, this is the best formed and best actioned horse of his size we have ever seen, and we appeal to the judgment of the readers of the PLANTER if his portrait (so called) is not the worst picture of a horse they ever saw? We do not know whose toes we shall pinch, but we feel bound to say the cut is a gross caricature of the horse.

No. 3. Constantine by imported Bienvenu, dam imported Constance, foaled June 10th, 1872.

No. 4. Welcome.—Dappled gray, foaled May 5th, 1873, by imported Bienvenue out of Constance 2d, by imported The Colonel out of imported Constance.

No. 5. Eugene.—Dappled gray, foaled May 11th, 1873. This is a typical and remarkably fine specimen of the heavy Percheron-Norman horse. He is 16 hands high and weighed in February, 1877, in bad order, 1330 pounds; weighs now at least 1500 pounds.

Messrs. Ficklin have also Clydesdale stock, but they are not equal to the Percheron-Normans, as we think, though by some thought superior. Every man to his liking.

SHORTHORNS.

No. 1. Old Madrid, a splendid old red Mazurka, now 13 years old, and the sire of a numerous progeny, of which there are some good ones at Belmont. Madrid was bred by the late R. A. Alexander, got by Royal Oxford, so celebrated as a sire. There are a number of young bulls at Belmont for sale got by Madrid, and they are offered cheaper than any equally good anywhere else in Virginia—nay, we verily believe, in the United States.

No. 2. Bright Eyes Gloster, a very fine young bull; a beautiful head and front and unusually good handler; stylish, thick fleshed, good at all points; neither plain nor inferior in any point; a No. 1 specimen of a highly-bred Colling-Bates bull. Such of his calves as we saw prove him a good getter.

Among the cows we note five families: Floras, Heart Roses, Victorias, young Phillis, and Lonans. Among the three first are many young things by Old Madrid. Nowhere can the farmer find better cattle for his purposes; nowhere else can he find them at lower prices. The other families are of a sort higher priced than the farmer need care to have; their breeding and qualities are such as to attract purchasers among professional breeders. Queen of the Meadows 2d is perhaps the best cow at Belmont. She is thus described: Red, calved September 17th, 1870 (A. H. B., vol. 16th), bought of J. H. Kissinger & Son. This cow of the young Phillis tribe is a superior specimen of that popular family. She has at this time a red cow calf by her side got by Old Madrid, and shows superior milking qualities, whereas she has a touch so fine as to indicate superior quality of flesh, and withal a size, style, and finished appearance indicative of a first-class Shorthorn cow. Besides the calf just mentioned, she has another by Madrid, one year older, very much like her dam. These, with four females of the Lonan family now to be bred to Bright Eyes Gloster, constitute the foundation of a very superior herd of Shorthorns. Lonan 2d, of Elm Grove, is a cow very much in her general character and appearance like Queen of the Meadows 2d, above described. Lonan of Belmont is the best individual at Belmont, calved January 13th, 1875; a rich roan in color, a first-class handler, and very good in every point; especially good in crops, and broadly arched over all along her level back, and covered with fine, thick hair.

Messrs. Ficklin are liberal and conscientious in their dealings. According to our observation, the influence of the younger partner is in the direction of reform, so far as style and condition is concerned. He is just building a handsome and convenient new dwelling, which by situa-

tion overlooks the paternal mansion. The house is large enough for two or more, but feathers are not a sign of a duck's nest. We trust the owner may be beginning a career which is to be as long, as prosperous, and as honorable as that of his father has been.

ITEMS.

The *London Live Stock Journal and Fanciers' Gazette* reports serious cases by death among high bred Bates cattle. Lord Bective has lost 10th Duchess of Geneva and 2d Duke of Tregunter; Messrs. F. Leemy & Sons the 7th Duchess of Geneva; Sir C. M. Sampson Grand Duchess 6th, and Surmise Duchess 2d; Lord Skelmersdale, 2d Dude of Onnskirk; Mr. G. Todd, Grand Duke of Lightburn 2d, and several others have lost fashionably bred Bates animals. Gentlemen who breed this sort of stock ought to take care of two things, first, that the general plan of treatment is not too artificial to be compatible with constitutional vigor, and that secondly, their reproductive energies should not be overtaxed, especially in early life. This last mistake appears to have cost the lives of several valuable sires last year in this country, and to have, perhaps, permanently impaired the usefulness of others. Wise old Abram Renick has avoided both these risks, and there are none of the fashionable cattle that compare in vigor and productiveness to his world renowned Rose of Sharous.

TENBROECK, THE CELEBRATED RACER,

Has been racing against "Father Time," and has lowered the record by several seconds. We have no wish to detract any thing from the merit of this wonderful horse, but certainly this time-test is liable to be very fallacious. It depends not only on the track, but on the particular condition of that track and of the weather at the time of the race, and further, the distance actually passed over in going around a circular track is always a matter of uncertainty; if, for instance, one horse plumbs the centre of the track while the other clings to its inner verge, the latter will actually pass over many yards less distance, although running on the same track.

RUSSIAN AND AMERICAN TROTTERS COMPARED.

It is strange that the jealousy of the English breeders of their American brothers, whose capacity they hold in great contempt, crops out with malignancy whenever the trotting horse is under consideration. A certain enthusiasts, Mr. Mason C. Weld, very possibly interested in the advertising of some Russian stallions, states in a rather muddled way that the Orloffs are the best horses in the world, and are so, because they are the best bred in the world, and then immediately following, shows that he don't know at all how they are bred, in the statement that he is not sufficiently familiar with the facts to know whether out-crosses have been

occasionally taken, or are now occasionally resorted to; but if they are, the breeding has been so excellent, as shown by results, that he should have confidence that the out-crosses would be taken with great discrimination, &c. This is a remarkable paragraph, put in as a sort of stay brace to the downright, positive, italicised assertion immediately preceding, that Mr. Mason C. Weld *knows* the Orloffs are the best horses in the world because they are the best bred. Now the Orloffs may be the best bred horses in the world, but it is plain from Mr. Mason C. Weld's own statement that he at least knows nothing about it. Yet the editor of the *London Live Stock Journal and Fanciers' Gazette* quotes this curiously muddled correspondent with great gusto, and remarks, "What is especially to be noted is the admission that the Russian trotting horse far surpasses the American. It is admitted a few of the swiftest Americans would beat them, though this is chiefly owing to more careful training; but it is conceded that even on that point the average would be in favor of the Russian, while in style and action the ugly, mean-looking American trotter stands no chance in comparison." Mr. Weld may "admit" what he pleases, but it is certain that if the Orloff horses surpass the American trotter in average speed, the fact has not been proven by any trial contest nor any public records. The ugly, mean aspect of the American trotter may be "admitted" by various Englishmen who have never seen six of them in their lives—as we doubt whether Mr. Mason C. Weld has seen much of the Orloffs—yet to "admit" these things and to *prove* them are two very different undertakings. Let us snatch up a handful of trotters for example, Ethan Allen, Pocahontas, Goldsmith's Maid, Governor Sprague, Thomas Jefferson, Huntress, Lady Thorn, who, that ever saw one of these great animals, will venture to say that there is in either of them any ugliness or meanness of aspect? If a man having seen many of the great American trotters writes them down as "mean-looking," we write him down as a person incompetent to speak of horse-flesh. When a gentleman of England, who has not seen them, writes them down "mean-looking," because of the "admission" of Mr. Mason C. Weld, we think it matters very little what he writes or thinks about American trotters. The work of Stoulberg on the horse, in many portions written with power and discrimination, becomes absolutely silly when he treats of the American trotter. The portrait he gives of Ethan Allen, as handsome and perfect a horse as ever trod the earth, and as superb in action as any ever was or can be made, and which he says was photographed from life, and therefore perfectly accurate, is an uncomplimentary portrait of the average mud-mill hack at the brick yards. Whereas the "portrait" of Flora Temple would stand well for the "night-mare" in a comic child's picture book. The pen portraits accompanying are as absurd caricatures as the pictures themselves. And we must believe that Mr. Walsh himself knows that his account of this

great breed of animals is an absurd misrepresentation of them. But now the finishing stroke comes at last. Mr. Mason C. Weld "admits" that the American trotter, whether in skillful breeding or average speed, or style and action, stands no chance in comparison with the Orloffs. We have never seen an Orloff, but from what we have been able to gather historically of their breeding, we are disposed to think they have been well bred, and that they possess endurance and speed in an unusual degree; but that they are at all equal in average speed to the American trotter we do not believe, and we know that if they are, there is no proof of the fact in existence—the "admission" of Mr. Mason C. Weld scarcely coming under that definition. Whereas, if opinions are in order, ours is to the effect that there is no horse in England or Russia, or elsewhere, except the true Arabian branch of the Oriental racing family, that can at all compare in style and action with the American trotters. And in spite of the high authority above quoted, we venture to advance the opinion that no other horse whatever is as far removed from "mean-looking" as the best and most finished specimens of the American trotter. Even the great old Dexter, ugly as he undeniably is, is about as far removed from "mean-looking" as Niagara Falls is from being a contemptible object. Examine the make up of this great animal in detail: his attitude, his expression, the effect of his presence, and if, as we imagine, there is anything impressive in the repose of conscious power, or in the effect of resolute, resistless courage and energy in action, we shall have no use for that hang-dog phrase, "mean-looking," in speaking of the king of the American trotting turf. But perhaps Mr. Mason C. Weld will "admit" that Dexter is "mean-looking" and don't compare with the Orloffs, and that, in the view of the gentlemen of England, would settle the question. When about to close this article our eye falls on the following advertisement in *Wallace's Monthly*: "Which, together with the experience of a former residence of some years in Europe, have enabled me to form connections very satisfactory and trustworthy, so that I am able to offer confidently to American gentlemen and breeders, to purchase for them of the best breeders direct, and both lower and better than they could buy themselves, Orloff and other carriage stallions." Address, M. C. Weld. Here, then, we find the leading stock authority of England quoting from an American advertisement—an "admission" that the Russian horses the advertiser offers to sell are better than the American horses other parties have to sell, and making this the occasion to declare that the "ugly, mean-looking American trotters" stand no chance in comparison with the superb Russians which Mr. Mason C. Weld has for sale. Whatever be the merits of the Orloffs, they cannot be proven by extracts from the advertisements of those who have them for sale. Nor, finally, does any man know what he is talking about who speaks of the American trotters as ugly, mean-looking brutes,

worthless, if not speedy, and seldom as fast as Orloffs, and only so as the result of exquisite skill in training, in exceptional cases. We suppose that the Orloffs are good tempered, stout and speedy harness horses, and may prove a valuable acquisition, not at all as a cross for American trotters, which need inbreeding rather than crossing; but as good general-purpose horses for some sections of the United States, to which they may be well adapted.

FIFTH DUKE OF HILLHURST.

From a private letter from Capt. M. S. Cockrill, Nashville, Tenn., we learn that the fine young Duke Bull, 5th Duke of Hillhurst, of which animal he owns two thirds, is in very fine condition, and that calves of his get prove him to be a valuable sire. 5th Duke is a solid red and at two and a half years, in good, healthy breeding condition, weighs nearly 1500 lbs.

A FARMER FOR GOVERNOR.

Many of our correspondents are expressing themselves very strongly in favor of a farmer for Governor, and if the rural people can organize and unite upon a candidate, that candidate of course will "walk over" for the prize. Col. Beverley, Gen. W. H. Lee and Gen. Taliaferro, are mentioned as acceptable to this class, and Gen. Lee being understood as not before the people the preference seems to be for Col. Beverley. Whatever may be the personal learnings of gentlemen, none can deny that so able a business man would be an improvement upon the average politician and attorney. We know Col. Beverly well, have known him ever since we have known any body, and we know no man among all we have known from childhood until now, of whose character and abilities we have held a higher opinion. As to Gen. Lee, we are one of those who are not willing to let the memory of Robert E. Lee die with the generation to whose service he devoted his great life, and when the people of Virginia are ready to make his son their Governor by acclamation, we are ready to join in that movement, but we will do nothing to place Gen. Lee in the position of a scrambler for office. Gen. Taliaferro is distinguished for fair-mindedness and honor. To what extent he is identified in interest and policy with the rural classes is unknown to us, but he would undoubtedly make a Governor above sectional and class prejudices, for he is essentially free from all narrow-mindedness.

THE SIXTH VOLUME OF THE AMERICAN SHORTHORN RECORD is now ready for delivery. This very useful and popular work may be had by addressing Major H. Evans, Spring Station, Woodford County, Ky. It is cheaper, stands higher, is simple and more comprehensive in form than any other work on the subject of Shorthorn pedigrees.

THE young ewes of the Southdown flock of Dr. J. H. Murray, of West River, Maryland, again sheared from seven to eight pounds. Thirty-two ewes, old and young, brought fifty lambs.

TWO HUNDRED SHORTHORN BULLS.

A party in Iowa advertises for 200 Shorthorn bulls to produce beef cattle fit to meet the demand for dead meat to ship abroad. Let the farmers of Virginia take heed lest they be completely forestalled in meeting the demands of this valuable trade by the enterprise and foresight of the Western farmer.

FISH CULTURE.

We continue to receive many letters about fish culture, and the interest in the subject seems to be steadily increasing. It is to be hoped the public opinion may, slowly though it be, grow at last up to the point of rigid enforcement of protective laws. The recent decision of the Supreme Court of the United States, with regard to Virginia oysters, will have an important bearing upon this whole subject of protective legislation in behalf of the fish and game of the country, by removing the widely prevalent notion that every Tom, Dick and Harry, has a right to slaughter all sorts of fish and game in and out of season, which right, the average freedman, with his old army musket, believes to be guaranteed to him, in express terms, by the Constitution of the United States. Still another view of this case is, that the sale of what has been aptly termed "sick meat," or fish and game out of season, subjects all persons purchasing and eating the same, to risk of health and life.

F. WYATT, ESQ., of Hanover County, Va., writes: I had the misfortune to lose yesterday morning, at 9 o'clock, my beautiful thorough-bred Jersey cow "Maggie," for which one thousand dollars would not have been accepted. She was two years old, and would have dropped a calf by "Oak Bluff," of Vermont. in July. I fear clover was the cause.

THE *London Times* notices the importation of the first sheep, seventy-five in number, from this country to England, and says they arrived in good condition. Carrying live stock to the Old World will soon be a common part of the business with vessels running from these ports.

BURNED FAT FOR COWS' TEATS.—A gentleman says that the best thing in the world to cure cracked teats, chapped lips and hands, is the fat left from frying pork, heated until it looks black. He says he has tried it many times, and known others to try it, and always found it successful. It certainly is cheap, easy to get, and worth trying.

Editorial—Farm-Garden and Fruits.

CONDUCTED BY DR. THOMAS POLLARD.

This month of July in which we write, and of the work important to be accomplished in this month, was named by the Romans, in honor of the great warrior, Julius Cæsar, who, had his life been spared from an untimely and useless assassination, might have accomplished a great work for the agriculture and health of his country. He had formed the design of draining the "Pontine marshes," and as he recognized no such thing as failure, might have succeeded in accomplishing a grand work, which future generations have failed to effect.

Wheat and Winter Oats will have generally been harvested by the time this reaches our patrons, and we hope there is a good crop of each.

Wheat promises finely, with a prospect of an excellent price.

The Spring oat, as usual, is indifferent, and should be abandoned in our latitude

Let these crops be housed as soon as practicable. If to remain in the field, let the wheat be carefully shocked, so as to shed water well—though it is the opinion of some, that wheat in "dozens" will keep better than in shocks on account of the rapid drying off after rains, and thus be less apt to sprout. Oats should be stacked early if they are not housed, for rain will damage them under the "tie," and prevent their sale and feeding qualities. If the seed is good and tolerably clean, which is rarely the case with winter oats, a portion should be gotten out for "seed," and the other portion baled, if the farmer has a baling press, for they sell better baled, are much more easy of transportation and are much less damaged by rats. We have been rather surprised that more baling presses are not kept by farmers generally—such we mean as do not raise *hay* as a crop for market. In every neighborhood several farmers might club together and buy a press, for baling can be taken in turns, being work which can be postponed and arranged among farmers to be done at their convenience. In this way oats, shucks and straw could be made available for market. By way of digression, we think American machinery is sold for a price too high, and that in a great many instances it is slightly constructed and made with improper material. There may be good reasons for the use of ash in place of hickory or white oak in machinery which has to be subjected to constant strains, but we do not know what they are, unless it be economy in cost and preparation of the timber, on the part of the manufacturer and the looks, for ash keeps straight and dresses up well. We have had some opportunity of comparing English machinery with American, and there is no question of the greater durability and stronger construction of the former. English manufacturers rarely slight their work, which cannot be said of the American manufacturers. Compare steam engines, for instance, particularly on ocean vessels, and the ship building itself. No such steamers as the "Cunarders" have ever been built in America. The "Collins" line, American, which attempted competition with them, soon broke down in the competition from the inferior construction of their vessels and engines. As to the cost of American farm machinery, what

is there to make an ordinary baling machine, for instance, cost \$140. Our machinery, manufactured at the North, is made, very little, with reference to durability. We suspect they do not wish it to last. Our experience, though not large in this line, has been anything but favorable. Some years since we owned a "mower," bought new, the repairs of which annually cost a great deal more than mowing with the blade would have cost. This was Northern work. Many farmers buy too much machinery for small farms. On large farms, machinery well constructed and well managed, is indispensable. As regards the cost, no doubt the buying on credit, by so many farmers, and the necessity of expenditure of a considerable capital by the manufacturer, helps to swell the price of farm machinery.

The *hay crop* in Virginia we hope is a good one, and the weather has generally been propitious for saving it. We spoke in our last of the mode of curing it, and particularly clover.

Millet and corn fodder may still be raised—corn for fodder should not be deferred long after the 1st of the month. Common millet will mature in 60 days—the German millet taking a little longer, generally nearly a month longer. A rich, sandy loam is best adapted to millet. It bears drought well, and on rich land will yield a heavy crop. Stable manure is a good fertilizer for millet, as it is for most other crops. If it cannot be had, then a fertilizer rich in phosphoric acid should be procured, for millet contains more phosphoric acid than almost any other crop raised by the farmer, particularly the grain portion. Both the grain and the stalk portion contain more magnesia than any other plant with which we are acquainted.* Magnesia is essential to the growth of plants, and if farmers in Virginia, on further trial, find it to their interest to raise millet, then some fertilizer should be prepared with special reference to its growth. That they will, is very probably, as its quick maturity makes it very convenient to raise after other crops, as after wheat, rye, oats, hay and potatoes. Some experienced dairyman has recently said that his cows gave more milk on well-cured millet than on timothy or clover. As millet seed is in demand, money may be made by suffering it to mature (if the farmer will have hay enough without it) and threshing and preparing the seed for market. This crop may be sowed either broadcast or in drills, the former generally preferred. If the land has been very foul, it might be well to sow in drills 24 to 28 inches apart. If broadcast, three pecks per acre generally used. Corn fodder should be cultivated in drills about two feet apart. The white corn is thought to be best for this purpose. It should be cut by the time it begins to silk generally, and put up in small shocks, securely tied, to prevent blowing down. It does not answer to house it, except after weeks of drying.

Peas for fertilizing had better have been sown the last of June, but may still be sown the first part of July. Mr. Payne, of Chesterfield, who has had much experience in sowing peas in this way and has greatly improved his land in various ways, thinks they benefit the land more by suffering them to fall on it, than by plowing them under green. If intended for wheat they will have to be plowed under green, unless the first frost is waited for, and the wheat put in late. Mr. Payne can tell us how this would do. Rye, peas and buckwheat may be used in con-

junction with excellent results for improving poor land. Sow the rye in August or 1st September—turn it in in May; sow with peas the last of May or first of June, then turn them in when they approach maturity and sow with buckwheat, which turn in for wheat or suffer to fall on the land and be eaten off by hogs or fowls. A piece of buckwheat sown near the house, is, as Mr. Payne suggests, an excellent way of feeding fowls until middle of winter. We have tried it, and find the fowls very fond of it, and industriously feed on it every day. It is best to seed it the last of July, though it may be seeded rather latter.

Corn, on good land, is generally so advanced as to be laid by before the wheat harvest commences, though this is often not the case, and on account of the cool Spring this year, corn is backward. The last working should be done with the five tooth cultivator, not run deep; this will leave the land level for the next crop, and in a condition to prevent washing on rolling ground. Where there is considerable distance between the rows as four and a half or five feet, some very good farmers recommend the first working of corn to be done with the double plow, so as to lap the dirt better in the balk, and thus kill the grass more effectually, and leave the ground in softer, more friable condition to throw back to the corn. It is a good plan to sow peas at the last working to improve the land, or if winter oats are to be seeded it may be done the last of July, though if the land is good and they come up at once, there is danger of their being so forward as to joint before cold weather. A better time in this latitude is from the 10th to last of August. Then we would run the cultivator through the corn, sow one and a half bushels, and cover with the cultivator, and chop between the corn with hoes; or, if the corn is grassy much, it will be necessary to run the plow in place of the cultivator, before sowing the oats. Oats sowed in corn in this way will almost always secure a good crop, and there will scarcely ever be any winter killing, the oats by Winter getting such root as to withstand almost any amount of cold in this latitude. "Clover" too may be seeded along with the oats, if postponed until last of August, with a good chance of obtaining a stand—as also may "orchard" and "tall meadow oat grass."

Turnips.—"Ruta bagas" may be sown the first part of this month, if sown at all. We regard them as uncertain in our latitude, partly on account of the difficulty of getting them up, and if the land is not very rich or well fertilized, they grow off very slowly. The land must be thoroughly prepared and gotten in very fine tilth, and drills opened 28 inches apart, and well rotten manure, or some of the superphosphates, or flour of bone strewn in with a liberal hand. Turnips contain also a considerable amount of potash, not so much as potatoes, and not so much phosphoric acid, but more sulphuric acid than any of the root crops, and nearly double as much ammonia as potatoes. In England, almost all the manure and fertilizers are put on the turnip crop, which is eaten off by sheep and then sown to wheat and grass. The English in this way use much superphosphate and flour of bone. After the fertilizer, whatever it may be, is placed in the drill, lap with a double furrow, forming a ridge, which must be flattened with a slight roller or rake. Sow on this ridge, with "seeder" or with the hand, having first opened a place for the seed with some sharp instrument; if the "seeder" is not used—one pint or a little more, if evenly distributed, will sow an acre of land. Preparation should now be made to sow the other varieties of turnips

about first of August, preparing the land as for "ruta bagas." The "White Norfolk" or "Globe" may very well be sown last of July. The Red Top rather later, as it matures earlier, and does not keep so well, particularly if it ripens too early. For salad, the sowing must be deferred until last of August or first of September. The "Yellow Aberdeen" is a popular turnip for table or stock. Upon the appearance of the turnip above ground, sprinkle on it every morning, while the dew is on, a small quantity of soot or very fine tobacco, or both combined, which will check the ravages of the turnip fly.

Asparagus should be worked now, if not previously done. It should be worked soon after the crop is over—the dirt being thrown from it with a single plow, then all the grass to be cut out with the hoe, levelling the beds. In a few weeks throw the dirt back. Take particular pains to get out all the "wire grass." We sometime since expressed a doubt about any additional growth being given to asparagus by the use of salt. In a discussion on this subject at a meeting of the "State Board of Agriculture of Massachusetts," some time since, all the speakers who raised asparagus, expressed the opinion that salt did not fertilize this vegetable. Last year we used it on some beds, leaving the larger portion without salt, and saw no difference in the production, but found that the salted beds had very little grass on them until very late in the season, and on this account, concluded that it would pay to use the salt. Accordingly, this year, we used nearly 40 bushels of salt on two acres of asparagus, leaving out only one row. This row apparently produced as much as the others—the cutters say they saw no difference, except it had more grass. The growth of grass was checked a good deal, and it has not been necessary to rework the beds during the whole season, extending to the 20th June. This free use of salt proves that land will bear more of it than is generally supposed, for now (20th June) there is a considerable growth of grass and weeds in the furrows; and this salting has been going on since the Spring of 1869, with the exception of last year, when it was used to the amount of only eight or nine bushels on a few beds. Besides last year, it has been used freely on the beds each year.

Strawberries—which are always grassy when the crop is over, should have the dirt thrown from them with a small mould board plow, such as is attached to the "Watt Plow," to be followed with a good working with the hoe, removing grass and runners. Then the "five tooth-expanding cultivator" should be run between them weekly, and the hoe used often enough to keep the grass from between the plants; the runners being cut off, and the plants kept in "stools." It is a very troublesome and expensive crop to work, and has ceased to be profitable, as far as the Richmond market is concerned, on account of excessive supply. To succeed with them in the Northern market, the business must be carried on on a large scale. On account of the difficulty of keeping them clear of grass, we think the best plan to raise them successfully would be to plant on poor land and use a commercial fertilizer containing a considerable amount of *potash*. If stable manure is used, necessarily a large quantity of grass will come up and render the working expensive. The best crop we ever raised was on two acres set out in the Fall of 1868 on land from which wheat had been cut. The fertilizing was done the next year, and the succeeding Winter of 1869 and '70, by the use of hen manure, plaster, ashes, and rich dirt, composted, and put around the plants

as the preparation could be prepared. Strawberries after two gatherings (i. e. the third Summer) should be plowed up and new plantings made on different land, if practicable. Many Northern cultivators plow them up after the first crop, i. e. the second Summer.

Sweet Potatoes.—If the ground is covered with the vines, it will require no more work except to pull up the weeds with the hand, removing particularly “crab” and “wire grass.” Young vines must be worked with the plow or cultivator, and hoes, taking care not to cover up the vines which should not take root. We have found the “Yam” or white potato more productive, and hardier, and earlier than the yellow or Nansemond. It keeps equally as well and is as sweet and good as the latter. We regret to hear the “black-rot” is prevailing among the plantations of our Hanover friends. We hope some one will go to work, and experiment, and discover the cause, and remedy. This may be done or may not, but there is nothing like trying. This is an important crop in Eastern Virginia, and promises to become much more so, for there is no reason why it may not be exported to Europe where it is little raised, and no doubt would be eagerly sought after. And besides, the starch it is believed will prove more useful in the manufacture of cotton goods than that of the Irish potato. Col. Jno. Ott can tell us something interesting on this point, and we hope he will do so in the next number of this journal, and at the same time, give us the analysis of the Sweet potato as he obtained it from Dr. Voelcker, of England. We hope some successful raiser of this important product, either from Hanover or some of the lower counties, or Eastern Shore, will give us a full account in some future number of our journal, of its whole culture and management, and keeping.

Cabbage Plants, for winter use, should be set out from the first to the middle of this month. With favorable seasons, and on good, rich land, they may be set until the last of the month. If they are too early, they head too soon—if too late, they do not head at all.

Wheat must be gotten out and sent to market as soon as practicable. It is a bad plan to wait for a rise, unless under peculiar conjunction of circumstances. The farmers have lost a great deal of money by waiting for a rise, which often never comes. But shrinkage and waste, and destruction by rats (and often by rogues) are sure to come. And by this waiting use of money is delayed, and interest lost. The crop we hope will bring a good deal of money into the State and help to lift us from our financial troubles and make times better.

Pruning, may be done the first part of July. “Downing” says a fortnight before midsummer is the best time to prune trees, particularly where large limbs are to be removed.

We omitted to say that timothy may be seeded on corn land the last of July, at the last working, or a special working for this purpose. It is generally sown with wheat, but frequently interferes with the growth of wheat. See an interesting article on this subject in our June number, 1877, by Mr. Macgruder, of Albemarle.

A correspondent in the June number, 1877, asks if clover will grow after peas and cites an instance to prove to the contrary. There is good reason why this should be true, as they both take from the soil very much the same constituents. Peas take up more lime and absorb more ammonia from the atmosphere than clover.

Editorial—General.

THE VIRGINIA FISH AND GAME PROTECTIVE ASSOCIATION.

The officers of this Association, in Richmond, have issued the following address, to which we invite the earnest attention of our readers:

To the People of Virginia:

"Now that the public mind has become quiet, through the restoration of good local government to the several States of the South, the time has arrived when we must address ourselves to the business of promoting such measures as will the more certainly place our prosperity on a permanent foundation. Bureaux of Agriculture, Statistics, and Mines, have been established in nearly all of the Southern States, and with fine promise of good results; the desire indeed is universal to get our abiding place in a shape to be attractive to other people, as well as valuable to ourselves.

"The space of a single generation, or century in fact, is a trifling element in the life of a people; yet we, in Virginia, but three hundred years old as a community, have dealt with the bounties of nature as if a posterity were wholly denied to us. Our timber has been wasted in the most reckless manner, and no care taken to preserve our oysters, fish and game. As to fish, ex-Governor SEYMOUR, of New York, was not far wrong when he said: 'There is more nutritious food in an acre of water well stocked with fish than in the best wheat-growing farm in the State of New York.' And as to game, aside from the pleasure of hunting, it is impossible to estimate fully its value in the destruction of the insect enemies to our cultivated crops.

"To aid in saving from absolute destruction our fish and game, the VIRGINIA FISH AND GAME PROTECTIVE ASSOCIATION was formed. This association invokes your earnest attention to the laws for the protection of fish and game, enacted by the Legislature of the State, and to the resolutions on the subject adopted by our body (copies of which are hereto appended), and urges you to form associations and clubs in your respective counties and neighborhoods, for the purpose of aiding in the enforcement of these laws. *The work must be done by associated action to be effective.* To the end that the matter may take shape throughout the State without unnecessary delay, we respectfully suggest that meetings be held at an early day at some central or convenient place in each county to organize associations similar to our own. Neighborhood clubs will be auxiliary to county associations. In the event of failure to form an association, in any county, we invite any citizen of that county to become a member of our association, unless he prefers to unite with an association or club in an adjacent county.

"Our association does not, of course, assume to do more than press upon your attention the importance of local organizations for the purposes indicated. Every county or city association will be a distinct establishment. All that we desire is the fullest accord and co-operation between this and kindred associations, looking forward to a convention of delegates from all for an interchange of views and the perfection of plans for the attainment of the objects we have in view. The coming State Fair, we are assured by those who have it in charge, will be made so attractive as to bring large numbers from all parts of the State; there could, therefore, be no season more auspicious than Fair week for this general meeting. *Let us then go to work with a will.*

"It is not presumed that the laws now in force for the preservation and protection of our fish and game, are perfect; nor can they be made so without an interchange of opinion representing all portions of the State. We believe that the creation of associations, working together, as indicated above, will go very far towards an arrangement of these laws on a basis that will insure the greatest good to the greatest number."

CHARLES T. PALMER, President,
O. A. CRENSHAW, Vice President,
JOHN GRÆME, Secretary,
JOHN OTT, Treasurer.

Richmond, Va., June 14, 1877.

The document containing the above address presents the proceedings of the

several meetings of the association, the Constitution they adopted, and a copy of all the laws now in force in Virginia relating to fish and game. It concludes with the following :

At a meeting of the Executive Committee of the Virginia Fish and Game Protective Association, held on the 15th of June, 1877, the following resolutions were adopted :

Resolved, That the Fish and Game Protective Associations, now existing, or hereafter organized throughout the State, be and are hereby respectfully invited to send delegates to a Convention to be held in the city of Richmond during Fair week.

Resolved, That the President of this Association invite Professor M. G. ELLZEY, of the Virginia Agricultural and Mechanical College, to deliver an address before said Convention.

Resolved, That any citizen of Virginia, interested in the preservation of fish and game in this Commonwealth, who may be in Richmond at the time this Convention is held, be invited to attend its sessions.

In pursuance of the foregoing, the Presidents of the several Associations, formed and to be formed, will communicate with the President of this Association at as early a date as practicable, so that the necessary details in connection with the Convention may be fully arranged in time.

When we consider, aside from the reasons set forth in the foregoing address, the additional attraction to immigrants, presented by woods well stocked with game, and streams with fish, we at once see how worthy the objects herein exhibited are of the very best efforts we are able to put forth to compass them.

All of which means business. We know that, in every county in the State, there will be found citizens enough of public spirit to press this matter on the attention of their people; and there is no more opportune time for the purpose than court day.

There are portions of the State where it is almost next to impossible to procure any reliable labor. In the ability on the part of the idle negroes there to hunt and fish at will is to be found the cause; and the sooner this is corrected the better.

These associations throughout the State can be organized and conducted without any expense whatever; and it is, for the moral effect, desirable to have them as large as possible. When the lawless in any one neighborhood find out that a large number of their county people are bent upon seeing these laws enforced, they will come to terms. This has been the result in other States, and there is no reason why Virginia should be an exception.

We trust the ball now started will be kept moving briskly.

SOMETHING OF INTEREST TO THE EXECUTIVE COMMITTEE OF THE VIRGINIA STATE AGRICULTURAL SOCIETY.

The weekly meeting of the Advisory Board of the North Carolina Agricultural Society took place last night (June 21st) at the Yarbrough House, Raleigh, A. Creech, Esq., Chairman.

After some routine business, the Board was interested in the reading of some letters by the Secretary, making valuable donations to the Society for the premium list.

On motion of Dr. James McKee, the stables were ordered to be repaired, and Dr. McKee and General Hoke were appointed a committee in charge of the same.

It was ordered that a pigeon match be added to the attractions of the Fair week. Dr. James McKee offers a fine pointer and setter, superb hunting dogs, as premiums in the match.

We are pleased to learn that the good work of contributing to the premium list for the Fair continues with unabated zeal.

Messrs. H. L. Pelouze & Son, 1200-1208, Franklin street, Richmond, Virginia, write that they will fit up three fonts of type, to the value of twenty-five dollars, as a contribution to the list.

Messrs. Charles A. Wilson & Bro., 119, Chambers street, New York, will donate twenty dollars in value in a handsome child's carriage. This will interest a large and important class of our population, and we expect to have many inquiries about the beautiful carriage, an engraving of which accompanies their letter. The price in ordinary times is said to be about \$40. Elias Haiman, Esq., of the Southern Agricultural Works, Marietta street, Atlanta Georgia, a liberal and enterprising manufacturer, sends to the North Carolina Agricultural Society, to be given as premiums at the next Fair, the following: One plow with solid sweep attachment, value \$4.15; one plow, straight shovel, \$3.95; one plow, tap turn, \$4.25; one plow with scooter attachment, \$4; one plow, cast turn, \$4.85, and one plow, patent sweep, \$4.55. As these are wholesale rates, their value is considerably greater when delivered to the fortunate winner, free of freight, &c., at the Fair Grounds.

From the business men in Raleigh, we are gratified to learn that our popular friend, Charles D. Heartt, of Fayetteville street, offers a pair of boots, of a value not less than ten dollars, to the exhibitor of the best calf skin tanned in North Carolina.

We invite the attention of our State exchanges to items like the above, which interest their readers all throughout the State. The Secretary promises a long and interesting list from time to time of this chronicle of the liberality of the supporters of the State Agricultural Society. The Executive Committee return their sincere thanks for these evidences of public interest in the great work that the Society has in view—the elevation of our agriculture, and improvement in the mechanic arts.

This indeed looks like business, and that the promise made by our North Carolina neighbors, to have this Fall the greatest Fair ever held in that State, will most certainly be fulfilled. A "weekly meeting" of the Advisory Board! Ours have been too much like angels' visits, few and far between. Now, everybody knows Major DREWRY's ability as a business man. Couldn't he arrange at Richmond an "Advisory Board" that would work like beavers from this time out to the Fair? We hope he will try to get it up, and infuse into it his own energy. If he does, our North Carolina friends will not beat us; and while we do not wish them less than their best desires, we certainly wish ourselves as much.

The strife for office has worked up our people again to fever heat. Will this never cease? It is altogether more necessary for us to make something to govern before we exercise ourselves so much about a Governor.

COFFEE WITH MILK.

Milk is undeniably wholesome and nutritious. Milk and coffee taken separately, not to interfere with each other in the stomach, are excellent; but, what is remarkable, when mixed and taken together they constitute a new composition which is absolutely indigestible.

This requires an explanation: The skin of animals is a nitrogenous matter which by boiling becomes a digestible product; if it is put in a fresh condition in contact with tannin, it is converted into leather, when it may no longer be turned into alimentary food; no amount of boiling will do it. Gelatinous substances, put in contact with the tannin, are affected like the skin; they unite with it and acquire the property of resisting the effects of gastric juice.

Now the infusion of coffee is rich in tannin, hence its mixture with milk has the immediate result of transforming the caseous part and the albumen that it contains into a kind of leather, and undecomposable and indigestible, like that made in a tan pit. The composition thus produced remains in the stomach until new aliments come to displace and force it through the lower orifice of the stomach into the intestines. The sugar and bread with which this mixture is charged digests all the same, as well as the gelatinous substances, if the coffee is not used in such quantity as to render them inert.

The stomach is thus ballasted with a kind of thin milk, in which the gastric juice that it secretes constantly is quickly diluted in weakening its stimulating action on the membranes from which its comes, and the result is that the want

of food makes itself more slowly felt; for this want, in general, is only developed when the stomach is empty. The consumer is thus deceived by the feeling of his stomach.

The use of this mixture is sometimes attended with disagreeable results. Those who are accustomed to it frequently undergo a purging through indigestion, and those who are, often eventually have inflammation of the stomach or one of the maladies to which this organ is subject under the abuse thus put upon it. Women especially, from their delicate organization, suffer in the consumption of coffee with milk. To dissuade them from its use it would be well to make them understand that *café au lait* (coffee with milk) is nothing in reality but leather soup.

If these scientific folks don't stop going so much into the why and the wherefore of things, the poetry of life will end, and the last one of us be put on the rack of apprehension lest what, in his innocence, he thought was very wholesome food, was in fact deadly poison. As far as we are individually concerned, we would sooner take the risk of shuffling off this mortal coil a little beforehand, and have some pleasure, of our existence, than lead a life of denial such as these scientific explanations would so naturally prompt. Parched corn and wild onions may do for the primitive man. We are not that man; and are very thankful for it.

The New England people look upon hot bread with horror, contenting themselves with the misery of a cold loaf, and not seldom Graham bread at that. And yet, of all the medicine takers in the universe, they bear off the palm. It is right hard to find a New Englander who hasn't at least some homœopathic pellets in his waistcoat pocket. We do not see that the cold bread business (based too as it is on a splendid theory) keeps them from having the dyspepsia, and a plentiful in store of it. The Lord has blessed us, in this Southern Country, with not a few good things to eat, and our housewives possess the art of putting them in the most attractive and appetizing shape; and among them all, we lay our greatest love by hot bread. With "Sally Lun," waffles, muffins, batter cakes, egg bread, rolls, biscuit, and loaf bread, all served hot as fire, what more could one want in the way of the staff of life! We will diligently keep on enjoying any of the foregoing our good fortune may provide us with, and take some good *café au lait* to boot; science to the contrary notwithstanding.

A WORD ABOUT PUBLIC SPIRIT.

In the admirable annual address of President STARK, of the New York Produce Exchange, delivered on the 29th of May last, he referred to the small share the United States enjoyed in the trade of the countries south of her in this hemisphere. This trade amounts to \$520,000,000 annually, of which the United States has but \$112,000,000, Great Britain controlling the bulk of the balance. Mr. STARK, after reciting the facts, exclaims: "Gentlemen of the Produce Exchange, merchants of New York, do we find nothing humiliating to us in the contemplation of such a spectacle?—Granted that the question, "What is to be done?" is not easily answered. It certainly is not answered by doing nothing. *One thing is certain, no State or individual goes unpunished who stands aside in moments when the duty of action is laid imperatively on all.*"

This last sentence brought us to a dead halt, and we ask ourself: "If New York people talk this way, how much more applicable is such language to us in Virginia." If ever a people lived where this "duty of action" pressed heavily, in all sorts of ways, we are that people.

We wish the terms of all the offices in and connected with the State were long,

and the aspirants to them were few, and we would have some time to devote to the machine itself, called the State.

There was a sort of republican theory that used to obtain in this country, namely, that the office should seek the man, and not the man the office. If this notion ever did have any vitality, it is as dead as HECTOR now. The candidate, in these days, not only finds aid in "ways that are dark and tricks that are vain," but advertises himself as industriously, from day to day in the newspapers, as the proprietors of "Hobansack's Liver Pills," or "Mrs. Winslow's Soothing Syrup," ever did the virtues of those sovereign remedies for our bodily ills. We can conceive of nothing more demoralizing than this wild hunt for office; and when it is going to end we know not. We wish we did; it would fill us so full of substantial hope for a solid prosperity to our people.

To come back.—We trust every one of our readers will ponder well that sentence of Mr. STARK'S, and inquire where and in what way his personal service can be of real advantage to the public interest.

HIGH AND LOW RATES OF INTEREST.

Few persons properly estimate the difference between a high and low rate of interest, and therefore often borrow money at ruinous rates that no legitimate business can stand. But few have figured on the difference between 6 and 8 per cent. One dollar loaned for one hundred years at 6 per cent., with the interest collected annually and added to the principal, will amount to \$340. At 8 per cent. it amounts to \$2,203, or nearly seven times as much. At 3 per cent., the usual rate of interest in England, it amounts to \$19.25, whereas at 10 per cent., the usual rate in the United States, it is \$13.809 or nearly one thousand times as much. At 12 per cent. it amounts to \$84.675, or more than four thousand times as much. At 18 per cent. it amounts to \$15,145,007, and at 24 per cent. (which we sometimes hear talked of) it reaches the enormous sum of \$2,251,799,404, or more than the State of Ohio is worth.

This interest business has been the sponge that has soaked up the bulk of our workers' earnings in the South since the war. The North, which was the Government, issued many millions of pieces of paper called greenbacks. These were paid out as money for materials of all kinds having a real money value. On these promises to pay the Government has never paid anybody any interest whatever. The South had no money, and so has had to borrow to keep going what business she tries to do; and she has paid an average of nine per cent. per annum for it. It does not take long to dispose of the principal at that rate.

Now, no matter how we consider the case, this truth comes up at every point: We must render ourselves self-sustaining; that is, we must so manage as to produce a surplus that will command the money of other people. This will give us wealth; and wealth increasing will give cheap money to those who need its use; and without cheap money, we are at a fearful disadvantage. Cheap money has made England.

COTTON GINNING AND BALING.

With all the advance made of late years towards perfection in machinery, not much headway has been gained looking to the improvement of the cotton gin. The Macarthy gin preserves the fibre, but it is too slow; the Needle gin does very good work, but it gets so easily out of order; and the Saw gin cuts the fibre badly. We are informed by Mr. EDWARD ATKINSON, of Boston, President of the New England Cotton Manufacturers Association, that the matters of both ginning and baling will be the principal business before the September meeting of that Association. He asks us to say to any of our friends in the Southern

country that he would be glad to hear their views on these subjects. Of course, whatever tends to make an article more desirable is a gain to the producer as well as to the consumer. This is the end of the discussion in question; and we hope, wherever the *Planter* goes, and its field covers the whole of the Southern States, it will strike men who can and will throw light on these matters.

Our export trade in this crop must continue to increase from year to year. Careful selection of seed, and gain in the period of maturity secured through the use of commercial manures, have so improved the quality of the staple, that the difference between the price of our uplands and that of the long staple, grown elsewhere than in our own sea islands, is hardly more than appreciable. We have, in few words, the game in our own hands, and we are poor players indeed if we do not win.

A MEMORANDUM FOR THE COMMISSIONER OF AGRICULTURE.—The movement in this State, looking to the preservation of our fish and game, will bring in correspondence with us those associations in active operation in other States; not only that, but the United States authorities working in the same direction. At the head of the latter is Prof. SPENCER F. BAIRD, of the Smithsonian Institution, Washington. The Professor has arranged the preparation of exact copies, in composition, of all the fish of the country. Now, why could not our esteemed Commissioner of Agriculture, Dr. POLLARD, working in conjunction with the fish and game associations in the State, secure for his museum from Prof. BAIRD, these models of all the fish peculiar to our Virginia waters? It would be a great attraction, especially to those people from abroad who incline to make their home with us.

SPECIAL PREMIUMS.

We notice in the Premium List of the Virginia State Agricultural Society the following special premiums. They present a chance for distinction to our lively young fellows, and we trust the competition will be general. They are a move in the right direction; for such premiums have worked admirably in the States farther South. The ARMSTRONG premiums will call for work from older heads; and between this and the Fair the time should be ample to digest thoroughly the subjects treated:

1. To the young white man, between the age of 18 and 25, who by his unaided labors shall raise, from 2 acres of land, the largest and best crop of bright, fancy tobacco, \$20.
2. To the young white man, between the age of 18 and 25, who by his unaided labors shall raise, from 2 acres of land, the largest and best crop of dark wrappers, \$20.
3. To the young white man, between the age of 18 and 25, who by his unaided labors shall raise, from two acres of land, the largest and best crop of sun-cured tobacco, \$20.
4. For the largest and best crop of wheat, from 5 acres, same conditions, \$20.
5. For the best crop of corn, from 5 acres, same conditions, \$20.
6. To the lady who shall exhibit the best results from the poultry yard, from actual sales, \$20.
7. For the best dairy results, for the present year, \$20.
8. For the most effectual and practical method of protecting the tobacco crop from the ravages of the worm, by the destruction of the insect, in any of its stages, \$25.

The following Special Premiums are offered by Wm. N. Armstrong, Esq., of New York.

1. For the best essay on the true method of farming one hundred acres of land, in Tidewater Virginia, on the plan of diversified production, \$25.

2. For the best essay on the true method of farming one hundred acres of land, in Southside Virginia, on the plan of diversified production, \$25.

3. For the best essay on the true method of farming one hundred acres of land, in Piedmont Virginia, on the plan of diversified production, \$25.

4. For the best essay on the true method of farming one hundred acres of land, in the Valley, or Southwestern Virginia, on the plan of diversified production, \$25.

It is desired, in few words, to show the capabilities of a one hundred acre farm, in each of the several localities mentioned.

The conditions, in respect of these premiums, are as follows :

1. The competing essays will be delivered to the editor of the *Southern Planter and Farmer*, on or before the first day of January, 1878, and by him be delivered to the Executive Committee of the Virginia State Agricultural Society.

2. The said Committee will determine the relative merits of the essays, in such manner as they may deem just, and to the author of the best essay, respectively, they will award the premium.

3. The successful essays will be given, in the first instance, to the *Southern Planter and Farmer* for publication.

FRUIT CANNING IN NORTH CAROLINA.

"As a fruit growing country, North Carolina is gradually coming into prominence. Fruit canning would be a profitable industry in this State. It would pay somebody to put up fruit canning establishments at Ridgeway and Salem, and perhaps at other points. Our resources in the fruit line are well nigh inexhaustible."

So says the *Raleigh News*, and the pity is that our press gives so few lines to the interests that will make us independent, if they are pushed, and so many to general politics, in which we have so little concern. What does it matter to us whether BLAINE is friendly to us or not : whether BUTLER has ceased to be a beast : whether MORRIS has got tired of trading in the bloody shirt : and whether the fiend of *Harper's Weekly* rests from his labor of firing the Northern heart against us ? They are delighted when they see us vexed and worried about these things. If we attend only to our own business, which is the development of our own resources and the extension of our own trade, our hands will be quite full enough ; until we do this—in other words, *become independent of the Yankee*—we may fume and froth to our heart's content ; we are his slave still.

THE FAR WEST.

"A gentleman who has spent many years in the far West and has travelled extensively through it, does not take the rose-colored view of its future indulged in by some enthusiasts. In his opinion, the States of Colorado and Nevada, which are States only in form, and the Territories of Wyoming, Dakota, Montana, Idaho, Utah, New Mexico and Washington, will never attain, nor can they support an aggregate population of more than 1,400,000, or about one-fourth the population of the State of New York. He bases his estimate on the scarcity of fertile lands, the difficulty of obtaining water, the presence of untillable mountain ranges, arid deserts, &c. In his opinion each territory, by making the most of its mining and farming resources, may acquire population sufficient to entitle it to admission as a State, but not one is likely to ever have more than a single member of Congress. Except in the Senate, the relative power of the East and West will not therefore, he thinks, be much changed in the future."

The *Washington Star* presents the foregoing. How any citizen of Virginia, for instance, could leave his home, blessed as it is with every bounty of nature, nothing being needed but the work necessary to make them available, and go to the West, away from the best market, namely, the seaboard, among a people utterly unlike his own, either in thought or feeling, in a climate by the side of which Virginia is a paradise, and to work like a dog to get what half the expen-

diture of labor at home would more than secure, is something altogether too hard for us to make out. Oh, fatuity unspeakable! And yet such people are to be found.

THE TOBACCO CROP.

We quote the following from the *New York Tobacco Leaf*, of the 20th ultimo. The matter of *better quality*, in the tobacco we raise, has been a subject of constant comment by us, and we do hope our friends will give it heed. What is worth doing, is worth doing well, especially when that "doing well" adds so much to our incomes:

"Assuming that a large crop of tobacco will be planted this season, it is to be hoped that it will not prove larger than can be well handled. It is not clear by any means that there is at present at home or abroad any more American tobacco than is wanted to keep the trade in a healthy, well-balanced condition, but at the same time, it is quite certain that a larger portion of the supply than usual *is of a kind that the trade has little relish for*. We do not seem to be raising too much tobacco, but we do appear to have a greater quantity of nondescripts and indifferently colored and cured tobacco in what we do raise than is wanted for trade purposes. How much of this fault is traceable to the growers, and how much to the elements by which the crop is influenced, nobody can tell. It is for the growers themselves to determine whether by diminishing the production they can diminish the imperfections found in their product; and if they conclude they can do so, self-interest should impel them forthwith to reduce their acreage to the extent required for achieving this object. The average price of leaf tobacco is low to-day as much on account of its low average character as on account of the surplus stock—possibly as on account of the surplus stock and business depression combined. This observation applies equally to the three leading varieties of American tobacco—Kentucky, Virginia and seed leaf. Both at home here and in foreign countries complaints are common respecting the character of each of these classes of leaf. There is little or no objection to the prices asked, but it is asserted that much more of this great staple is dear at any price than was formerly the case."

SUMMER PORK PACKING.

The number of hogs packed since March 1 to dates mentioned are as follows at the undermentioned places:

	1877.	1876.
Cincinnati, May 30,	60,700	42,700
Chicago, May 30,	535,000	395,000
Indianapolis, May 29,	66,500	85,028
Cleveland, May 27,	53,450	65,680
Kansas City, May 28,	34,328	7,836
Milwaukee, May 30,	12,500	3,000
Other places approximately	150,000	110,000
Total,	912,478	709,244

"Hog-killing time" is, in these modern times, every day in the year. We have been in a packing-house, in the middle of July, and saw hogs dispatched at the rate of a thousand a day. The temperature of December was produced at will by compressed air, thus permitting the hog to cool off gradually and be packed without danger of spoiling. Through artificial means, "seasons" of all sorts are becoming a thing of the past, man everywhere asserting more and more his absolute dominion over everything on the earth.

FINE YELLOW TOBACCO SEED.—We have heretofore referred to the popularity of the Essay on fine yellow tobacco, written by Maj. ROBERT L. RAGLAND, of Hyco, Halifax county, Va. Numbers of those who read the Essay have applied

to the Major direct for a supply of the seed he has found most serviceable in producing the best quality of this type of tobacco : we refer to the "Yellow Oronoko" and the "Silky Pryor." These constant applications has induced him this year to raise a large quantity of these seeds ; and as few of us are yet rich enough to work for nothing and find ourselves, he will set on them the usual market price. It gives us pleasure to point our friends, in this general way, to a source where they may supply themselves with the best seed in this line.

COTTON PROSPECTS.

Messrs. ELLYSON & Co., of Liverpool, who are acknowledged, on all hands, to be the best posted cotton authority in the world, publish the following, under date of 9th ultimo, on the prospects of the cotton trade :

"Last month we stated that so far as statistics went, the position of cotton was one of considerable strength, but that this potency was weakened by the unsettled state of European politics, and, therefore, that it was difficult to see where any immediate improvement was to come from. Since then there has not been much change in the political situation ; but any alternation that has taken place has favored the expectation that the war will not extend beyond the present belligerents. Meanwhile the statistical position of cotton has gained further strength. This accounts for the circumstance that prices have recovered $\frac{1}{4}$ d per lb. from the low rates current three weeks ago.

"The prospects of supply for the remainder of the season indisputably point to much smaller imports into Europe this year than during the corresponding period of last year, and, therefore, to a material deficit in the stocks in the ports on the 30th September. This is clear enough from the sudden drop in the receipts at Bombay (65,000 during the past fortnight, against 118,000 last year), and from the virtual cessation of arrivals at the American ports and Alexandria. At the moment this strong position of the figures is partially neutralized by the following influence : First, the heavy stock of cotton concentrated in this port ; second, the want of elasticity in Manchester ; third, the slow state of business in the East ; fourth, the moderately favorable accounts of the new crop ; and fifth, the possibility that a new trouble may yet arise out of the Russo-Turkish war.

"At present these influences check all enterprise and speculation ; but it is certain that they will lose some portion of their curbing power as the year advances. The stock will run down more rapidly than it did last year. This will establish confidence here and in Manchester. Simultaneously there will be the improved demand for goods usual in the autumn. And we are certain to have the customary unfavorable accounts of the American crop. As to the war we do not share the fears entertained in some quarters. It is contrary to common sense to suppose that Russia will court defeat by forcing any other Power or Powers to take the field against her ; and we, therefore, do not fear any extension of the war. This feeling will gain ground in the public mind as the campaign goes on ; and with reduced apprehensions of extended war will come increased expectations of improved trade.

"With such an outlook an advance in prices seems more probable than a decline. It may be that not much change will be witnessed until some impression has been made on the stock here ; but the chances in favor of an eventual rise are sufficiently numerous to suggest to spinners and manufacturers the propriety of covering any forward orders they may take at present prices."

We add to the foregoing, the following from the *Financial and Commercial Chronicle*, the best American cotton authority. It is from the issue of 23rd ultimo :

"Had the relative prices of cotton and breadstuffs remained as in January, it is more than probable that there would have been a very considerable increase in cotton acreage this year. The last crop was, in general, raised so judiciously, that is, with such an addition to food products, and so marked an increase of economy and frugality in cultivation—that though prices were low, results were not unfavorable. But with the subsequent rapid advance in breadstuffs and the obstinate decline in cotton, the early intention to increase the cotton area was

Quoting from the *Agricultural Returns of Great Britain*, for 1876, we give a memorandum on the sheep question in that wonderfully energetic country, Australia. When will Virginia make the showing she should in this direction?

"The increase of sheep in the Australian Colonies has of late years been remarkable, their aggregate stock this year (1876) amounting to nearly 64,000,000, as compared with 23,741,000 in 1851, and 49,773,000 in 1871."

"Hard licks" have done the work for Australia; they will do as much for us if we will only strike them.

COMMISSIONER OF AGRICULTURE.

We notice that the name of Col. S. S. BRADFORD, of Culpeper, is being presented by almost the *entire press* of Virginia as well as influential papers of other States, for the office of Commissioner of Agriculture. Col. BRADFORD's practical and thorough acquaintance with all the branches of agriculture, eminently fits him for the position, and his appointment would give general satisfaction to the entire South. We know of no one better qualified for the position, and we hope the appointment will be tendered him by President HAYES. The *New York Evening Express*, speaking of Col. BRADFORD, in connection with this office, says:

"The name of Col. S. S. Bradford, a distinguished agriculturist of Virginia, is very favorably mentioned for the office of Commissioner of Agriculture. This appointment would be pleasing to the South, and very acceptable to several of the Northern States, in which he is well known and highly esteemed."

A WORD TO ADVERTISERS.

The *PLANTER AND FARMER* has a circulation ranging from Maryland to Texas. Its patrons are farmers, and the names of the contributors to its pages will show their character. Treating as it does of Southern interests, and always in the most direct manner, its utterances receive attention and its work is appreciated. There is no portion of its space of more solid and practical interest than that given to its advertisements, and it is desirable that they should cover all that concerns an agriculturist. We wish, then, specially to receive the advertisements of manufacturers of *farm implements* of all kinds; of *live stock* men; of growers of *fruit and ornamental trees*; of *poultry* men; of *bee* men; of *seedsmen*; and of manufacturers of *fertilizers*. The terms will be found on the second cover-page; and in order that we may "speak by the book" in the special notices we make of them in our editorials, we would be glad if each person advertising his wares with us will send explanatory pamphlets showing the actual experience had with them.

POTATOES.—The Agricultural Department of Cornell University has received a valuable present from Dr. P. M. Hexamer, of New Castle, N. Y., consisting of five hundred varieties of potatoes. This collection took a prize at the Centennial Exposition last year, and it is considered the largest and most complete in the world. The potatoes are to be planted in the University garden.

COL. S. S. BRADFORD, in a private letter, says:

"I am blessed with the finest crop of wheat I have ever raised, estimated by all at 30 bushels per acre. The crop of wheat in this section is generally good, and, if the market is maintained, will afford great relief to our poverty stricken people. Hon. R. W. THOMPSON will deliver the annual address before the Piedmont Agricultural Society at its fair in October."

The Piedmont Agricultural Society, of which Col. BRADFORD is President, in influence and size, is second to none in the State.

NEWSPAPER ENTERPRISE.

The *Religious Herald*, of this city, edited and owned by Rev. Drs. Jeter and Dickinson, has placed upon its editorial staff Rev. James Upham, D. D., of Boston, Mass., an eminent Baptist divine, and for fourteen years the editor of the *Watchman and Reflector*, the organ of the Baptists of New England. For a time the aim of the *Herald* seemed to be to become the common medium of communication among the Baptists of the South, whose members are considerably in excess of a million, and in doing this they have bought the subscription lists and good-will of three Baptist newspapers. Now, with a return of good feeling between the North and the South, the *Herald* is securing quite a good circulation in States north of this. We clip the following from the *Herald* itself:

"Of late, notwithstanding the scarcity of money and the hard times, our advertising patronage has steadily increased. Sometimes we have had to "leave over" a column or more of first-class advertisements because we had not room for them

"During a recent visit to New York city, the proprietor of the largest advertising agency in America made a remark to us which fully explains why the *Herald* is so popular with those who seek the eye of the reading public. He said to us: "*Your paper has a larger circulation than any journal in the South, secular or religious, with a single exception. There is one political paper which is ahead of you, but you are ahead of all others throughout the entire Southern country.*" It is the business of this great New York agency to ascertain, as nearly as possible, the circulation of every paper in the country. It has paid agents who secure this information, and it does not rely upon the affidavits of newspaper proprietors. It stands between the advertiser and the newspaper, and the former is greatly influenced by the information he receives from the latter.

"Advertisers are almost as solicitous as to the *character* of the readers of a paper as to their *number*, and it is pretty well understood now that our subscription list contains the names of many of the most thrifty and intelligent Baptists in all sections of our extended country."

CO-OPERATION OF FARMERS—THE GOVERNORSHIP AND THE LEGISLATURE OF VIRGINIA.

We hear much of co-operation among the farmers. "Now's the day, and now's the hour." If we are to have co-operation among the farmers of Virginia, of which we hear so much, what opportunity is more fit than the present? We have a Governor and a Legislature to elect. Let us then have a farmer for Governor who will understand the wants of agriculture, and will work to promote those wants, and a Legislature of farmers, who will be in sympathy with farmers and their interests. Is not agriculture the predominant interest of Virginia? If it is, then should not the government be in the hands of the farmers, that their rights and interests should be properly protected and promoted? If the "Patrons of Husbandry" and farmers generally intend to co-operate and unite, and bear their banner to the front, now is their opportunity. If they do not seize the occasion, then let us hear no more about co-operation and protection of "farmer's rights." With a farmer Governor and a farmer Legislature, we can have all the laws enacted that the farmers desire, including a "dog law," and whatever appropriations of money are really needed to promote farmers' interests.

Among the candidates prominently mentioned for the office of Governor, Gen. FITZ LEE or GEN. TALLIFERRO would fill the bill. The city of Richmond has just given these two gentlemen 31 delegates to the Nominating Convention.

THE TUCKAHOE FARMERS' CLUB at their meeting in May were most handsomely entertained at the residence of Jno. A. Lynham, Esq., one and a half miles from Richmond, on the Broad Street road. The members enjoyed the day with un-

usual zest. The farm of sixty-three acres, all in cultivation, and brought, by well directed efforts, to a very high state of productiveness. No commercial fertilizers have been used, but liming and green-manuring have been so successfully employed that land—a few years ago quite poor—is now growing wheat that will yield 18 to 20 bushels per acre. The oat and corn crops were both doing finely and gave high promise of a good yield. About 20 acres were in winter oats, the same area in wheat, 12 in corn, and the balance in orchards, grass, &c.

The entire farm presented an appearance of great neatness, and the Club were delighted at another demonstration of the fact that farming pays.

A fine specimen each of Abdelkader's and Hambletonian's colts were shown to the Club, also Durham and Ayrshire cows, Chester, Berkshire and Poland-China pigs. The crops of almost every kind of poultry were large and thrifty. The Club was particularly struck by the convenience and neat appearance of the stables, cow-sheds, cribs, granaries, and of all the out-houses. They had ample space and range, contributing greatly to the comfort of the stock and the cleanliness and neatness of the premises.

The community may well acknowledge a debt of gratitude to Mr. Lynham for the important lesson he gives them in practical agriculture.

The farm has been to him all the time a source at once of pleasure and profit, and is worth to-day vastly more than when it came into his hands. No costly experiments have been tried, but plain, common sense, and intelligent industry have wrought the good result.

We are always glad to chronicle every case of successful farming, for when it ceases to be remunerative, our whole industrial system topples down. All honor to every successful tiller of the soil, whether on the large scale or on the small.

The bountiful and superb repast to which the members sat down, was in keeping with the reputation of the Club. If you want to eat good dinners, unsurpassable in all the accompaniments of good cheer, join the Tuckahoe Farmers' Club.

PLANTERS LEAF TOBACCO WAREHOUSE, CORNER 15TH AND CARY STS., RICHMOND, VA. We called to see Messrs. Hutcheson & Sarvay, Proprietors of this large establishment, a few days since, and found them busily engaged receiving, shipping and sampling leaf tobacco, with a stock of over 3,000 hogsheads already in the Warehouse, and their receipts averaging from 80 to 100 hogsheads per day. We cordially commend this firm to all shippers of tobacco to this market. Each have had 25 years' experience in warehouses and the selling of leaf tobacco, and all who ship them tobacco may rest assured their tobacco will be well cared for, and when ordered to sell it, you will get the highest market price and prompt returns as soon as the sale is made. We think the planters of tobacco ought to patronize Planters Warehouse, because the proprietors, although the law of the last Legislature failed to take effect till October, 1878, were prompt to reduce their charges to those prescribed by that law, which, for sampling, coopering up, &c., is one dollar per hogshead; and storage for four months, one dollar and twenty-five cents per hogshead. The planter, it will be recollected, only pays the sampling fee of one dollar, and the buyer the fee of one dollar and twenty-five cents when the hogshead is removed from the warehouse. All tobacco insured against loss by fire or water by them, free of charge, and their commission for selling is two and a half per cent. on gross sales. See their advertisement.

SCRIBNER for July is on our table, and fully sustains the reputation it has so long enjoyed. This number contains an interesting article on "*Richmond since the War.*" The illustrations of points of interest are particularly fine.

St. Nicholas, Scriber's Illustrated Magazine for the girls and boys, delights the old folks as well as the young.

We have received from the publishers, S. Brainard's Son, Cleveland, O., a copy of "*Heavenward*," a collection of new Sunday School songs by James R. Murray, P. P. Bliss, and others. This new book has been eagerly looked for by our Sunday School workers, and they will not be disappointed in "*Heavenward*." It contains a large variety of choice Sunday School music by the leading writers in America, and is the *only* new book in which will be found the *best* and most popular hymns and music of the late P. P. Bliss. We also notice a number of standard Sunday School favorites have been inserted, such as "Hold the Fort," "What Shall the Harvest be?" Sweet By and By." &c.

It can be obtained from most booksellers, or by sending 25 cents to S. Brainard's Sons, Cleveland, O., you will receive a sample copy (in paper covers) by return mail. Price in boards, 35 cents by mail, \$30 per hundred.

SEVERAL small lots of new wheat have sold in Richmond at \$1.85 to \$1.95 per bushel.

We have on hand one of the best papers on PEA FALLOW we ever read, by JUDGE FULLERTON, which was received too late for the present number, but will publish in next issue.

RICHMOND PRICES CURRENT.

REPORTED BY

E. & S. WORTHAM & CO.,

Grocers, Dealers in Iron and Steel, and Commission Merchants—Agents for the sale of Bridgewater Family Flour, and DoPon's Sporting and Blasting Powder. Personal attention paid to the sale of Tobacco, Wheat, Corn, Flour, Oats, Rye, &c., &c.

JUNE 25, 1877.

TOBACCO—Bright Lugs, \$8a\$20; Bright Leaf, \$12a\$65; Dark Lugs, \$3a\$6½; Dark Leaf, \$6½a\$12½.

WHEAT—None offered.

CORN—66a67c. per bushel for white.

CORN MEAL—70a75c. per bushel.

OATS—Spring, 40a43c. per bushel.

FLOUR—Superfine, \$7½a\$7¾; Extra, \$8¼a\$8½; Family, \$9¼a10¼.

BEANS—White Navy, \$1.50a\$1.75.

PLASTER—Ground, \$8 per ton.

PEAS—Black Eye, \$2a\$2.50.

LIME—Rockland, \$1.05a\$1.15; Virginia, \$1a\$1.10.

HAY—Virginia Timothy, 90c.a\$1; Clover, 75c.

FEATHERS—40c. lor live goose.

SUGARS—10¼a11½c. for Refined Yellow; Cut Loaf, 13a13½c.; Refined Standard A, 12½a12¾c.; Standard B, 12¼a12¾c.; Extra C, 12a12½c.

COFFEE—Rio, 21a23½c. for good to very good; Lagnayra, 21a23½c.; Java, 28a30c.

MOLASSES—Common, 33a37½c.; Porto Rico, 55a65c.

BACON—Hams, 10a13c.; C. R. Sides, 8¼a9¼c.; Shoulders, 6¼a7c.

WOOL—Washed, 30a32c.; Unwashed, 20a23c. for choice.

COTTON—11c. for low middling.

BUTTER—Common, 10a12½c.; Good to Choice, 16a18c.

SALT—Fine, \$1.75; Ground Alum, \$1.05a\$1.10.

LARD—Country, 10a11c. per lb.

POTATOES—\$1.25 per bus. for Virginia: Northern, \$4.50a\$4.75 per bus.

BEESWAX—28c. per lb.

FISH—N. C. Herrings, Cut, \$7½a7¾; Gross, \$5½a\$5¾; N. C. Family Roe, \$5½a\$6; Eastern, \$3¼a\$4.

TAR—\$2¾a\$3.

GRANO—Peruvian, \$60 per ton; Pacific, \$46 per ton; Allison & Addison's Star Tobacco Manure, \$50; Maryland Tobacco Food, \$50; Bone Flour, \$50.

FERTILIZERS—Anchor Brand Tobacco Fertilizer, \$55; An. Brand Tucker's Fertilizer, \$55; An. Brand Old Dominion Co., \$50; An. Brand Wheat Fertilizer, \$50; An. Brand Cotton Fertilizer, \$50.

NAILS—\$2.85, standard.

IRON—Refined, common sizes, 2 5-10a2 8-10c.; Brands, 3a4c.; Swedes, 6½c.

STEEL—Naylor's, 17½c.; Blistered, 11¼a12c.; English Blistered, 16½c.

POWDER—Sporting, per keg, \$5¼a6¼; Blasting and Mining, \$3¼a3¾.

SHOT—\$2.30.

MESSENGERS WANTED.

WE OFFER TWENTY CENTS EACH FOR SOUTHERN L. MESSENGER,
1835, No. 7; 1847, Nos. 1, 2, 4, 6, 7, 9; 1848, No. 9; 1852, Nos. 4, 7, 12;
1861, Nos. 5, 12; 1862, Nos. 2, 3, 5, 6. For other Nos. 5 and 10 cts.

Twenty-five cents for Ruffin's Farmers' Register, Dec. 1842.

All kinds of books or pamphlets bought for cash or taken in exchange. We have for sale at 10 cents each 1,000 vols., embracing Farmer's Register, Southern Planter, School and Miscellaneous Books, Nos. Harper, Blackwood, London and other Magazines. We offer on the best terms the largest assortment of BOOKS in the Southern States.

J. W. RANDOLPH & ENGLISH,

Booksellers, Stationers, Binders, Printers, Blank-Book and Paper-Box,
july—1t Manufacturers, 1302 and 1304 Main St., Richmond.

SOLUBLE PACIFIC GUANO. THIRTEENTH YEAR.

We again offer this standard, trustworthy Guano to planters and farmers as having stood the test of Twelve Years' use in our State on all varieties of soils, and in good and bad seasons. The fact that its reputation is better and the demand for it greater than ever before is, we think, conclusive proof of its excellence, and that it is sold at a price which enables the Planter to make a handsome profit by its use.

Every Bag is **GUARANTEED** to be of **STANDARD** Quality.

ALLISON & ADDISON'S "STAR BRAND"
Complete Tobacco Manure.

This preparation, made by ourselves, is of exceptionally high grade, and is intended to be a **complete** fertilizer for tobacco. It is carefully prepared of the purest and best materials known, and so proportioned as to make the best crop the soil and season will admit of. It has been in successful use for many years, and has met the unqualified approbation of nearly every planter who has used it, the general report being "it is all you claim."

We solicit a trial, if but a single bag, in competition with any other fertilizers.


ALLISON & ADDISON'S "STAR BRAND"
Flour of Raw Bone.

WARRANTED PURE.

We have a supply of this standard pure bone, prepared expressly for use on Tobacco and Corn. It will be found quick in action and lasting in its effects.

THIS BONE is not equalled in fineness and purity by any other bone on the market. We **GUARANTEE** it in **EVERY** Respect.

We think one or the other of these fertilizers will be found exactly adapted to every quality of soil, and a trial will show that they have few equals, and no superiors.

 These fertilizers are for sale by our agents throughout Virginia and North Carolina, at Richmond prices, with drayage and freight added.

ALLISON & ADDISON,

Ap—tf

Richmond and Petersburg, Va.

PURE HIGH GRADE FERTILIZERS.

ETIWAN GUANO,
ETIWAN POTASH CHEMICALS
FOR TOBACCO,
ETIWAN
Dissolved Bone.

ANALYSIS GUARANTEED. WARRANTED PURE.

MANUFACTURED BY

Sulphuric Acid and Superphosphate Co.,
CHARLESTON, S. C.

W. A. JAMES, Esq.,

Dear Sir:—I have used your Dissolved Bone on Tobacco, equal quantities to the acre, with other standard guanos, which cost twenty dollars per ton more than the Bone. I have left it to my neighbors, and they all agree with me that the tobacco on which the Bone is used, is equal in size and superior in color. I am so well pleased with your Bone that I shall try it on wheat this fall.

HANOVER Co., Va., Sept. 24, 1876.

EDWIN VAUGHAN.

HENRICO Co., Va., February 1, 1877.

WM. A. JAMES, Agent,

In regard to the use of your Etiwan Dissolved Bone, it gives me much pleasure to state that I used it on Tobacco the last season and was much pleased with the result. During the growing season the tobacco kept a rich dark green, and at cutting time was at least 10 *per cent.* better than that grown with other fertilizers, costing 60 *per cent.* more than yours.

Yours truly,

G. D. GILLS.

☞ For circulars and particulars apply to

WM. C. BEE & CO.,
General Agents,

Or

Adger's Wharf, Charleston, S. C.

WM. A. JAMES, Gen'l Traveling Ag't, Lock-Box 118, Richmond, Va.

FOR SALE BY

WM. A. JAMES, Agent,

may

Cor. 12th and Cary Sts., Richmond, Va.

LEE'S Prepared Agricultural Lime

FOR

TOBACCO,

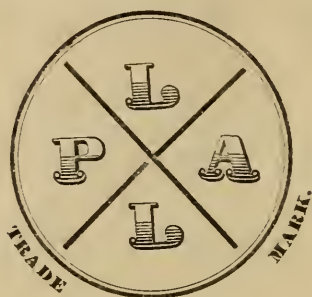
COTTON

PEANUTS,

CORN,

POTATOES,

&c., &c.



UNPRECEDENTED SUCCESS.

Farmers who tried a little last spring on COTTON and TOBACCO, alongside of fertilizers costing \$50 per ton, say they can see no difference in the Crops. An application of 400 lbs. per acre, in the drill, doubles the

CROP OF COTTON.

Mr. J. S. BUSTER, of Brookneal, Campbell County, Va., says: "Where he used it last Spring, notwithstanding the unfavorable season, made a good crop of Leafy Tobacco, and shows his faith by buying TWO CAR LOADS for his Spring Crop."

The largest Potato growers in Hanover say it is the best thing they ever tried on

SWEET POTATOES.

The best evidence of its results is, that my sales up to 1st March are TEN TIMES as large as they were last year at the same time.

Send for Circulars. Prepared and sold by

A. S. LEE, Richmond, Va.

AGENTS.—Robert Tanner & Co., Petersburg; J. J. Thomas, Raleigh, N. C.; Warner Paulett & Co., Farmville, Va.; R. T. Knox & Bro., Fredericksburg, Va.; Moon & Bro., Scottsville, Va.; J. M. Norvell, New Canton, Va.; Wm. H. Parrish, Cartersville, Va. mar

Peruvian Guano Guaranteed.

By this Brand is designated *Pure and Genuine Peruvian Guano*, in which the lumps have been crushed, stones (when found) and all other impurities, removed:—it is, therefore, sold in *purer condition* than when landed from *Peru*.

Put up in bags of 200 pounds each, on which the *guaranteed analysis* is printed, and the *retail price* per ton of 2,000 pounds clearly marked.

The retail price is fixed according to the analysis, at the following rates, which are considerably below those adopted by Inspectors of Fertilizers in this country, or the trade in Europe, thus making the Guaranteed Peruvian Guano the **cheapest Fertilizer in the world.**

For Ammonia	17½c. per pound.
“ Soluble Phosphoric Acid.....	10c. “
“ Reverted “	8c. “
“ Insoluble “	2c. “
“ Potash (as Sulphate).....	7½c. “

NONE GENUINE unless put up as above and bearing the following Trade Mark of the undersigned, Peruvian Government Agents in New York, and **Lead Seals**—on which the Monogram of the Trade Mark is stamped—attached to the extremities of the twine with which the mouth of the bag is sewn, to guard against adulteration.



As a specimen of Analysis and Price of Peruvian Guano Guaranteed, we give those of two cargoes, now on sale, respectively designated **A** and **B**.

CARGO A. PRICE MARKED \$56.

Ammonia.....	6.80 per cent.....	\$23 80
Soluble Phosphoric Acid.....	3.80 “	7 60
Reverted “	11.50 “	18 40
Total available Phosphoric Acid.....	15.30 “	
Insoluble Phosphoric Acid.....	3.00 “	1 20
Potassa.....	3.70 “	5 55

Estimated Retail Price.....\$56 55

The commercial value of the above Guano is \$79.40 per ton, at the rates lately adopted for valuing fertilizing ingredients, by Hon Thomas P. Janes, Commissioner of Agriculture of Atlanta, Georgia, and State Inspector, Prof. Wm. I Land. Chemist of the Department of Agriculture, which are as follows:

For Ammonia.....	18½c. per pound.
“ Available Phos. Acid, (Soluble and Reverted).....	15½c. “
“ Insoluble Phosphoric Acid.	4½c. “
“ Potassa.....	6½c. “

Thus, the commercial value of the above Guano is fully 42 per cent. in excess of the selling price, \$56 per ton.

CARGO B. PRICE MARKED \$70.

Ammonia.....	11.50 per cent.....	\$40 25
Soluble Phosphoric Acid.....	5.40 “	10 80
Reverted “	10.00 “	16 00
Total available Phosphoric Acid.....	15.40 “	
Insoluble Phosphoric Acid.....	1.70 “	68
Potassa.	2.80 “	3 45

Estimated Retail Price.....\$71 18

According to the rates adopted by the Agricultural Department of Georgia, already referred to, the commercial value of this Guano is \$93.83 per ton, consequently, 34 per cent. above our selling price, \$70 per ton.

We invite Agriculturists to test the value of Commercial Fertilizers by our Standard, and to compare the result with their selling prices.

Liberal Discount Allowed to Dealers.

For further information, Circulars. &c., apply to

HOBSON, HURTADO & CO.,

—6m

Agents of the Government of Peru, No. 63, Pine Street, .N Y.

CHESAPEAKE AND OHIO RAILROAD.

PASSENGER DEPARTMENT.

CONNECTIONS OF PASSENGER TRAINS FROM RICHMOND

9.00 A. M. Mail, daily except Sunday—daily west of Hinton. Arrives at Gordonsville 12.45 P. M., connecting with Virginia Midland train at 1.10 P. M., arriving at Washington 6 P. M. for all points North. Arrive at Charlottesville 1.35 P. M., connecting with Virginia Midland train at 1.55 P. M., arriving at Lynchburg 5 P. M. for all points South; arrives at Huntington 10 A. M.

3.45 P. M. Accommodation, daily except Sunday, arrives at Gordonsville 7.30 P. M., connecting with Virginia Midland train at 7.40 P. M., arriving at Washington 11.55 P. M. for all points North.

10.45 P. M. Express, daily. Arrives at Gordonsville 2.40 A. M., connecting with Virginia Midland train at 2.50 A. M., arriving at Washington 7.30 A. M. for the North; arrives at Charlottesville 3.35 A. M., connecting with Virginia Midland train at 7.55 A. M., Arriving at Lynchburg 11.07 A. M. for the South. Arrives at Huntington 6.45 P. M., connecting closely with C. & O. Packet Steamers or Cincinnati, Louisville, St. Louis, Chicago and all points in the West, Northwest and Southwest.

FROM HUNTINGTON.

4.10 P. M. Mail, daily to Hinton—daily, except Sunday, East of Hinton. Arrives at Charlottesville 11.40 A. M. connecting with Virginia Midland train at 1.55 P. M., arriving at Lynchburg 5 P. M. for all points South, via Virginia and Tennessee Railroad; arrives at Gordonsville 12.35 P. M., connecting with Virginia Midland train at 1.10 P. M., arriving at Washington 6 P. M. for all points North. Arrives at Richmond 4.30 P. M.

10.30 A. M. Express, daily—arrives at Charlottesville 1.50 A. M., connecting with Virginia Midland train at 7.55 A. M., arriving at Lynchburg 11.07 A. M. for all points South. Arrives at Gordonsville 2.35 A. M., connecting with Virginia Midland train at 2.50 A. M., arriving at Washington 7.30 A. M. for all points North. Arrives at Richmond 6.30 A. M., connecting with Richmond and Danville 7.50 A. M., and Richmond and Petersburg 7.25 A. M. Trains for all points South.

N. B.—The 8.10 A. M. train from Washington arrives at Gordonsville 12.40 P. M., and connects with Chesapeake and Ohio mail trains, both for Richmond and Huntington. The 9.50 P. M. train from Washington arrives at Gordonsville 2.40 A. M., and connects with Chesapeake and Ohio express trains, both for Richmond and Cincinnati.

The 9 A. M. train from Lynchburg arrives at Charlottesville 11.55 A. M., and connects with C. & O. mail train for Huntington, and at Gordonsville 12.40 P. M. with C. & O. mail train for Richmond.

The Richmond and Danville and Richmond and Petersburg trains arriving from the South at 8 P. M., connect with Chesapeake and Ohio express train, leaving Richmond at 10.45 P. M. for the West and North.

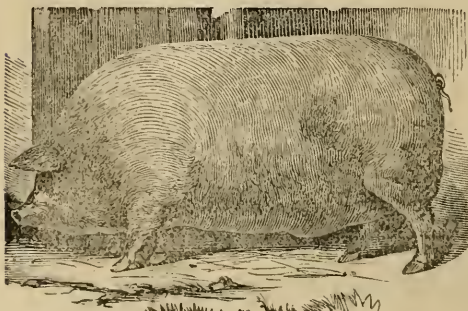
CONWAY R. HOWARD,

General Passenger and Ticket Agent, Richmond, Va.

W. M. S. DUNN,

Engineer and Superintendent of Transportation.

jan—tf



Premium Chester White, Berkshire and Essex Pigs. bred and for sale by GEORGE B. HICKMAN.

Also Fancy Poultry.

West Chester, Chester County, Penn.

Send Stamp for Circulars and Price List. sep—ly

Wilber's Direct Draft EUREKA MOWER.

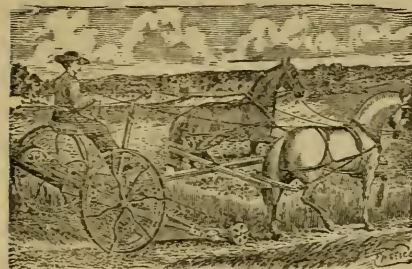
CUTS SIX FEET

WITH

LIGHTER DRAFT

THAN ANY FOUR FOOT SIDE

CUT MOWER MADE.



Farmers save TWENTY-FIVE PER CENT. in gathering their HAY CROP by using the

EUREKA MOWER.

Professor John H. Winston, agent, Bristol, Tennessee; Look & Lincoln, agents, Marion, Va.; Fox & Ewald, agents, Wytheville, Va.; Graham & Robinson, agents, Graham's Forge, Va.; John D. Noble, agent, Dublin, Va.; P. L. Terry, agent, Big Lick, Va.

SEND FOR CIRCULAR.

GEO. D. DAVIS' SONS,

131 Main Street, Lynchburg, Va.

General Agents for Virginia.

ma

MONTCLAIR STOCK FARM.

Houdons a Specialty. Best Non-Setting Breed for the South. Hardy, Fine Layers of Large Rich Eggs. Best Table Fowl Known.

Eggs for Sale now. Birds in the Fall.

I have purchased August Belmont's (of New York) entire flock, bred by him from birds he imported from the *Jardin D'acclimation Paris*. I have one of the original imported hens in yard, \$1. These make, with my previous large and fine collection, one of the finest lot of Houdons in the country, certainly the finest in the Southern States. I will exhibit this Fall at Richmond Fair, also at the Agricultural Fairs at Staunton, Lynchburg and Culpeper, and the Poultry Show at Baltimore. PRICES OF EGGS.—Yard, \$1—Finest Imported Stock, \$4 per doz. Yard, \$2—Exhibition, \$2.50 per doz. Yard, \$3—The Farmers' Yard, \$1.50 per doz. Birds in yard, \$3. are pure bred, but are selected solely for their laying and table qualities without regard to fancy points. Eggs warranted fresh and true to name, carefully packed in boxes made expressly for the purpose.

WM. L. BRADBURY, Montclair Stock Farm,

may—ly

Box 95, Orange C. H., Va.

BERKSHIRE PIGS.

I am breeding from the Strains of Berkshire Pigs, and will sell my pigs at six montes old at \$5 each; when past two months, \$7 each; when past three months, \$9 each; and so on, adding Two Dollars for additional month of age. Board and shipping one dollar extra.

J. B. STACY,

Amelia C. H., Va.

ju—tf

AGENTS WANTED FOR OUR NEW BOOK GREAT CENTENNIAL EXHIBITION ILLUSTRATED.

Over 400 Fine Engravings, costing \$20,000. The only book fairly showing the fine costly exhibits of the Art Gallery, Machinery and Main Buildings. Wide-awake Agents are quitting all the inferior books for this. Get the best. Send for circular, terms, and sample engravings. P. W. ZEIGLER & CO., Philadelphia, Pa.; Cincinnati, O.; St. Louis, Mo., or Chicago, Ill.

ju—

HEADQUARTERS OF IMPROVED STOCK IN THE SOUTH.

The liberal patronage I have heretofore enjoyed from my fellow-farmers of Virginia and the Southern States, has induced me to make large additions to my breeding stock; and I am now prepared to furnish a quality of stock, such as I have never before offered, being bred from selections from the very best herds and flocks, both in England and America, some of which cost fabulous prices. I offer

SHORT-HORN BULLS & HEIFERS,

the get of the pure Bates bulls, second Earl of Oxford, 6.708, and Fidget's Oxford Twelfth, 23.152 (the latter now at the head of my herd), and out of cows representing the Craggs, Dewdrop, Rosamond, Janthe, Mary Ann and other families.

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from my imported and prize-winning Boars and Sows, some of which have few equals and no superiors. Berkshires all recorded in the Berkshire Record."

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*Bronze Turkeys, \$7 per pair. White-faced Black
Spanish Fowls, \$6 per pair. Scotch Colly
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Handsome Striped Silks at 75c., 80c., 85c., 90c., and \$1, well worth \$1, \$1.10, \$1.15, and \$1.25; Good Black Silks from 85c., up to \$3 per yard—all very cheap—but we call special attention to our Silks at \$1, \$1.35, \$1.50, and \$2 per yard; Colored Silks in endless variety, from \$1, to \$2. per yard; Good Double-Width Black Alpacas at 25 worth 35c., at 30 worth 40c., at 35 worth 45c., at 40 worth 50c., at 45 worth 60c., at 50 worth 65.—also finer qualities as cheap in proportion; Domestic Gingham at 8½c. per yard worth 12½c., at 10c. worth 16½c.; Wash Poplins at 8½c. worth 12½c., at 10c. worth 15c., at 12½ worth 16½c., at 16½c. worth 20c.; Printed Delaine at 8½c. per yard worth 20c.; Printed Percalés at 12½c. per yard worth 25c.—these are the finest goods manufactured; Printed Cambrics at 8½c. per yard worth 12½c.; Cheviot Shirting at 8½, 12½, 15, 16½, 20, and 25c. per yard—all much below regular prices; Real Georgia Nankeen, ten yards in a piece, for 75c. worth \$1.25; Black Cachemires, Delaines, Bombazines, Australian Crepe, Henrietta Cloths, and other Dress-Goods for mourning; Satin-Striped Muslins at 16½c. per yard worth 25c.; Checked Muslins, handsome styles, for wrappers and aprons, at 25c. worth 37½c. per yard; Victoria Lawns at 12½, 15, 16½, 20, and 25c. worth from 5 to 16c. per yard more; Swiss Muslins from 10 to 50c. per Card—the cheapest ever offered; Handsome Styles of Piques at 16½c. per yard worth 25c.; Lace-Striped Muslins, in great variety, at the lowest prices ever known; Honeycomb Quilts, extra large size, at 85c worth \$1.25; Marseilles Quilts at \$3 and \$5 worth \$5 and \$8; Linen Crumb Cloths, three yards by two and a half yards, at \$3 worth \$5, and four yards by three yards at \$4.75 worth \$7; Turkey-Red Table Damask at 75c. worth \$1, at \$1 worth \$1.25, at \$1.25 worth \$1.75; Nottingham Curtain Laces at 16½, 20, 25, 30c., and up to \$1 per yard—all much lower than ever offered; Curtain Muslins, one and a quarter yards wide, at 25 worth 35c., at 30 worth 40c., at 35 worth 50c.; Cotton Cloaking for children's wear at 50c., some of which is worth \$1 per yard; Unbleached Knitting-Cotton, three, four, and five strands, at 30c. per pound; Bleached Knitting-Cotton, superior quality, large balls, all Nos. from 6 to 24, at 55c. per pound; Carpet-Warp in all colors, the best manufactured, at \$1.75 for a bundle of five pounds; Cotton-Yarns, all Nos. from 4 to 12, at \$1.10 for a bundle of five pounds; Gilt Band Window-Shades at \$2 a pair, with fixtures complete; French-Wove-Corsets at 50c. worth 75c., at 75c. worth \$1, at \$1 worth \$1.25; Parasols and Umbrellas direct from the manufacturers at lower price than ever; Hamburg Edging—20,000 yards purchased at the large auction sales. In these goods we offer extra inducements.

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june

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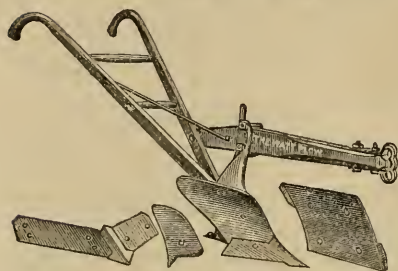
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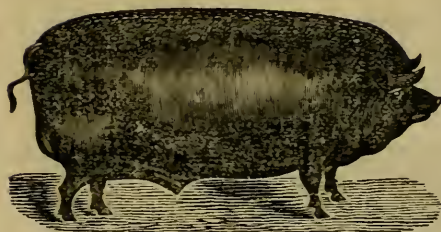
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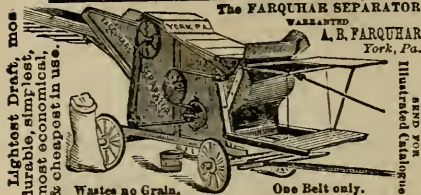
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THOROUGHbred AND HALF BRED
HORSES,
Pure Shorthorn Cattle & Berkshire Pigs
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I am breeding thoroughbred Poland China and Essex Hogs, Bronze Turkeys, Light Brahmas, White Leghorns, White-faced Black Spanish and Dark-crested Ducks, all carefully boxed and delivered at depot, with feed for destination. Satisfaction guaranteed.

Bronze Turkey Eggs, \$3 50 setting 12. Light Brahma Eggs, \$2 00 setting 15. White Leghorn Eggs, \$2 00 setting 15. White-faced Black Spanish Eggs, \$2 00 setting 15. Dark-crested Duck Eggs, \$2 00 setting 15.

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DEVON CATTLE, LEICESTER, SOUTHDOWN and MERINO SHEEP. POLAND-CHINA. BERKSHIRE AND ESSEX PIGS.

My Cattle, Sheep and Hogs took many first premiums at Piedmont, Lynchburg and Richmond Fairs. All bred from the most noted and fashionable strains of Prize Winningstock. Selected with great care from the best herds in the United States. Send for price list. Address

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Shropshire Down Buck
THREE YEARS OLD

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"Gen'l. McClellan" and "Daisey"
Cow, both from Imported Stock, will be sold cheap. Pedigree furnished.
Also best breed of Hogs.

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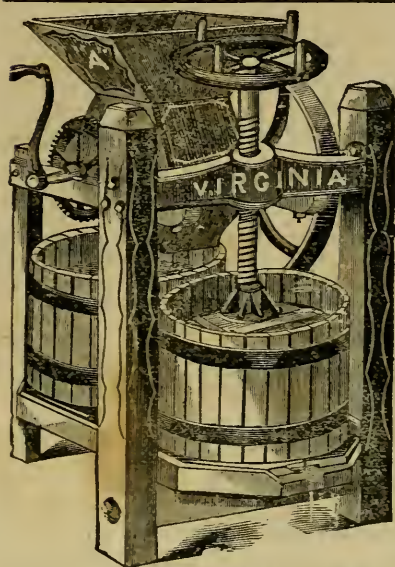
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for one of same breed and equal quality. For sale Superior Full-Blood Yearling Rams, by him.

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[We doubt whether there is a superior Ram in the South than the one of Mr. HAXALL.—L. R. DICKINSON.] july—



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Is superior to any MILL now made, and more sold annually in this market than of all other kinds combined. It does not grate, but thoroughly crushes every fruit cell, insuring all cider the apples will yield. Send for Catalogue.

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july—17

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FALL STYLES, 1874.

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SAMPLE CARDS

Are now ready for mailing. Our assortment embraces
TWENTY-FOUR PATTERNS.

Merchants desiring samples, will please address,

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Office, 248 Washington Street, Boston, Mass., Post Office Box, 3456.

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Dealer in Agricultural Chemicals and Minerals, Manufacturers of

WARD'S SPECIAL FERTILIZER—For Grass, Wheat, Rye, Barley, Oats, Corn, Potatoes. Cotton, Tobacco, Hops, Sugar-cane. Beets, Turnips, Cabbage, Carrots, Celery, Strawberries, Pot Plants, &c. Price \$15 per ton in bulk at Factory, or \$20 per ton in bags, delivered at any railroad in Boston. Formulas compounded on any basis given, and furnished at lowest market rates, and analysis guaranteed.

WARD'S SEED PREPARATION—Prevents Smut and Rust, and will increase the Grain, Corn and Cotton crops twenty-five per cent., and is applicable to all other seeds. Sufficient for one acre sent by mail for fifty cents.

WARD'S PREPARATION FOR POTATOES—Increases the yield and prevents the rot. Sufficient for two bushels seed sent by mail for twenty-five cents.

WARD'S FERTILIZER FOR HOUSE PLANTS (Concentrated)—Odorless. Enough for 100 plants sent by mail for ten cents.

WARD'S INSECTICIDE (not poisonous)—Destroys Potato, Squash, Mealy and Rose Bugs, Aphides, Thrip, Red Spiders, Hop lice, vermin on fowls and cattle, ticks on sheep, fleas on dogs. Enough to make four gallons sent by mail for twenty-five cents.

WARD'S DEODORIZING POWDER—\$15 per ton. Is useful in stables, cheese factories, slaughter houses, tanneries, or where any disagreeable odors arise.

Also for sale, Ground Bones, Superphosphate of Lime, Phosphate of Soda, Nitrate of Lime, Nitrate of Soda, Sulphate of Ammonia, Ashes, Potash, Soda Ash, Silicates of Potash, Soda, Lime, Ground Oyster Shells, Charred Bones for Fowls, Powdered Charred Bones for Cattle, &c. Soils, etc., analyzed.

AGENTS WANTED.
Circulars sent on application.

July—1891

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HEADQUARTERS

FREDERICKSBURG, VA.

I am now prepared to fill orders for

HERD BOOK JERSEY (ALDERNEY) AND AYRSHIRE CATTLE AND CALVES, COTSWOLD, LEICESTER, SHROPSHIRE AND SOUTHDOWN SHEEP AND LAMBS—HERD RECORD BERKSHIRE SWINE, AND ESSEX FROM

BEST IMPORTED STOCK—AND FOR ALL THE LEADING VARIETIES OF LAND AND WATER FOWLS AND EGGS FOR SETTING FROM SAME.

Every effort has been made, and no expense spared in securing the best specimens of Stock, selected in person at the Centennial, and from herds of the most prominent Northern breeders, and no other "Headquarters of Improved Stock at the South" succeeded in securing more premiums in the various classes than were awarded to

OUR STOCK

at the last Virginia State Fair. We sell at LESS than Northern prices, and

GUARANTEE SATISFACTION,

and would refer all to the WHOLE COMMUNITY in which we live, as well as to all our patrons in this and most of the Southern States, as well as those in some of the Northern States, whom we have supplied with Stock which we endeavor to make our best advertisement. Address

July—

A. P. OR W. W. ROWE.

FOR NINETY DAYS

FROM THE DATE OF THIS ISSUE OF THIS PAPER

Elegant Table Silverware

Can be secured by all who receive a copy of this week's paper, on compliance with the following conditions: The Union Silver Plating Company, 704 Chestnut Street, Philadelphia, Pa., manufacturers of Pure Coin-Standard Silver Plated Ware, will send to any one entitled to receive the same, a set of Double Extra-Plated Silver Spoons, and engraved on each spoon any desired initial. You are required to cut out the following Silverware Coupon, and send to the above Company, with your name and address, as a guarantee that the order comes through this paper. You are also required to inclose with your order the nominal charge of 75 cents, to pay cost of engraving initials, packing, boxing, and express charges. The Spoons will be sent by express or mail (if you have no express-office), and delivered in your hands without further cost. As the 75 cents barely covers express and engraving charges, the Spoons will cost you nothing. These Spoons are guaranteed to be of the best material, and equal to the best Silver Plated Ware made, as the following letter from the Union Silver Plating Company, will testify:

OFFICE UNION SILVER PLATING COMPANY, Philadelphia, Pa.

TO WHOM IT MAY CONCERN.—The spoons sent out under this arrangement we guarantee are of best quality, first heavily plated with pure nickel (the hardest white metal known), and a double-extra plate of pure Coin-Standard Silver added on top of nickel, thus rendering them the VERY BEST Silver Plated Ware manufactured. In no case will they be sold at retail by us for less than \$3.50 per set. Our lowest wholesale price is \$55 per gross (twelve dozen). We will honor no order which does not contain the Silverware Coupon, and we will not honor the Coupon after ninety days from the date of this paper. [Signed] **UNION SILVER PLATING COMPANY.**

SILVERWARE COUPON.

On receipt of this Coupon, together with 75 cts. to cover express or mailing, engraving, and boxing charges, we hereby agree to send to any address a set of our pure Coin-Standard double-extra plated

SILVER SPOONS.

and on each spoon engraved any desired initial. All charges are to be prepaid by the 75 cts. sent in, and the spoons will be delivered at destination free of any other charge.

Good for ninety days from date of this paper, after which this Coupon is null and void. [Signed] **UNION SILVER PLATING COMPANY, Philadelphia, Pa.**

Should it be desired, any one of the following articles will be sent in lieu of the spoons, on payment of the following charges: Six solid steel knives, blade and handle one solid piece best steel, double nickel and silver plated, \$2; retail price \$6. Six forks, double nickel and silver plated, 95 cts.; retail price \$4.50. If all these goods are desired, enclose the total charges, which will be 75c. for spoons, \$2 for knives, and 95c for forks—total, \$3.70—thus securing for \$3.70 what would cost you \$14 in any other way. Remember, under this arrangement each article, except knives, will be engraved with any initial desired without extra cost.

IMPORTANT NOTICE.

By the terms of this contract this liberal arrangement holds good for only ninety days from the date of this paper, therefore it is to the interest of all who are entitled to its benefits to see to it that they are not debarred by reason of the expiration of the time specified. All letters ordering Silverware should be addressed direct to the **UNION SILVER PLATING COMPANY, Philadelphia, Pa.** Letters containing subscriptions must be sent direct to the office of this paper.

July—

THE POPPLEIN SILICATED SUPER-PHOSPHATE.

PATENTED MARCH 31st, 1874.

Containing all the ingredients necessary for the full development of the crop to which it is applied.

We make separate and distinct compounds for Tobacco, Truck, Cereals and Cotton, based on the analysis of each plant, and have the exclusive right to use

VEGETABLE SILICA,

of which Professor A. Genth, of the University of Pennsylvania, says:

"It is well known that Silica in such a condition has been the great lack of all the Fertilizers in the market. Since a long time I have been an advocate of the introduction of available Silica into artificial manures.

"With your Fertilizer, you furnish the farmer with the most complete manure, containing all the elements—except those contained in the atmosphere—which are necessary for the full development and increase of grain in Wheat, Corn, Rye, Oats, Potatoes and all crops which require Silica for their growth.

Yours truly,

"F. A. GENTH."

We solicit a trial with any other Fertilizer sold or used. Send for Circulars.

THE POPPLEIN SILICATED PHOSPHATE FERTILIZING CO.,

No. 11 German St., Baltimore, Md.

H. B. TALIAFERRO & CO., AGENTS,

Richmond, Va.

july-tf

PIEDMONT GUANO & MANUFACTURING
COMPANY,
BALTIMORE, MD., AND CULPEPER, VA.
PIEDMONT GUANO,
P. G. Ammoniated Superphosphate.
PURE BONE MEAL.

Send for Circulars showing the splendid results of our
Fertilizers on Wheat, Grass, &c, &c.

Our BONE MEAL is unsurpassed by any offered on the
market. Address

W. JUDSON BROWN, Secretary,
84 South Street, Baltimore.

CHARLES WAITE, Secretary,
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Sep—1y

STIEFF

**GRAND SQUARE AND UPRIGHT
PIANOS**

Have received the highest encomiums wherever they have been introduced.

MADE OF THE VERY BEST MATERIALS THROUGHOUT,
they are nevertheless offered at prices that will compare favorably with those of
any *first-class* manufactory on this continent. The *best* is always the *cheapest*,
and hence purchasers of STIEFF Pianos will find a satisfactory equivalent for
their money.

The *lasting* quality of their instruments is fully attested by the many Educa-
tional and other Institutions, in the Southern States especially, where over 400
are in daily use, and by the unanimous verdict of the best performers of this and
other countries. Terms as favorable as is consistent with the times, and every
instrument fully warranted for *five* years.

We are also Sole Agents for the Southern States of the

“MATCHLESS BURDETT ORGANS,”

which speak for themselves. A full supply of every style constantly in store,
and sold on the most reasonable terms.

Fifty second-hand Pianos always on hand, at prices ranging from \$75 to \$300.

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Sep—1y

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No. 9 North Liberty Street, Baltimore, Md.

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Chemical Fertilizer Manufacturers,
32 SOUTH STREET, BALTIMORE.

Are now preparing the following popular brands of fertilizer for the wheat crop, containing all the essential elements necessary to the growth of that important crop :

SOLUBLE SEA ISLAND GUANO,

Well known and of undoubted excellence.

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A high grade fertilizer of known merit.

Ammoniated Alkaline Phosphate,

An article especially prepared for wheat, and sold on satisfactory terms to Grangers. Endorsed by the patrons who have used it for the past four years.

For sale by Grange Agents at Richmond, Norfolk, Petersburg, Alexandria, Lynchburg and Baltimore.

RAW, STEAMED AND DISSOLVED BONES,
POTASH SALTS

In store and for sale.

 Special compounds prepared on orders.

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